

NEW

INSIDE THE STORY OF BRITAIN'S FIGHT FOR SURVIVAL

# THE BLITZ



FROM THE MAKERS OF  
**HISTORY OF WAR**

Digital  
Edition

FUTURE  
SECOND EDITION



**SELFLESS HEROES | SHATTERED LIVES | A PEOPLE UNITED**



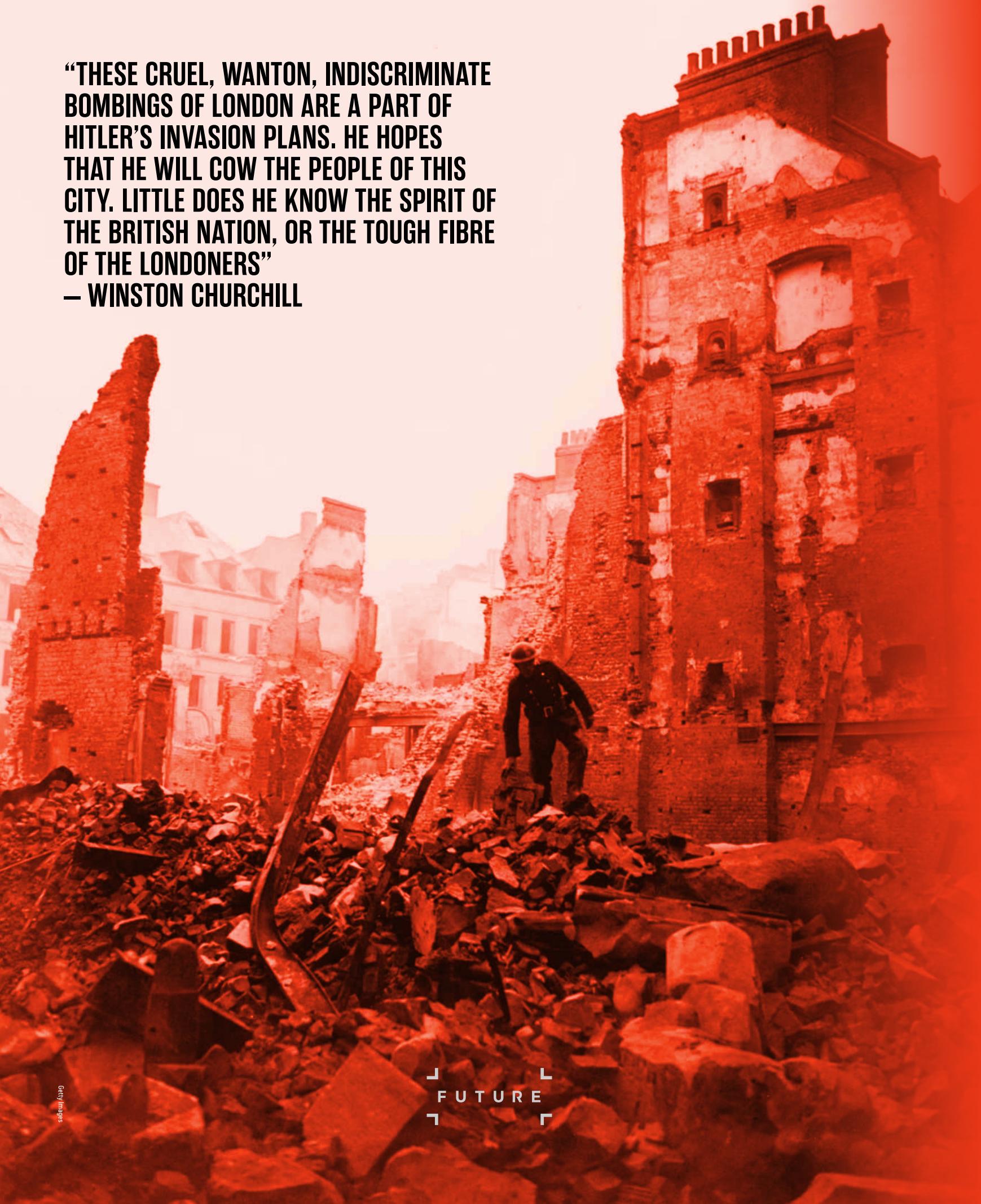
# RUN FOR COVER!

On 7 September 1940, a new and horrifying chapter in the history of Britain began: the Blitz. As bombs rained down on London from waves of Luftwaffe planes, the scale and savagery of WWII came crashing into the homes and lives of thousands of innocent civilians. Countless homes, businesses, communications networks, factories and, most valuable of all, families, would be destroyed throughout the course of the Nazi terror raid, a campaign aimed at obliterating the nation's morale and forcing the British Government to sue for peace. But the people of Britain proved far more resilient than Hitler could ever have anticipated. Steeling

themselves against the relentless bombing, they stood tall and vowed to carry on, their courage and collective spirit an unbeatable force that would unite a nation. From volunteer firefighters to air raid wardens, RAF night fighters and even Girl Scouts, men, women and children across the country braved bombs and blasts to do their bit, building shelters, battling infernos and hunting the enemy in an effort to defy the threat of fascism. Get ready to dodge the bombs, man the searchlights and immerse yourself in their story, a brutal struggle that may have ended 80 years ago but still echoes to this day.



**“THESE CRUEL, WANTON, INDISCRIMINATE BOMBINGS OF LONDON ARE A PART OF HITLER’S INVASION PLANS. HE HOPES THAT HE WILL COW THE PEOPLE OF THIS CITY. LITTLE DOES HE KNOW THE SPIRIT OF THE BRITISH NATION, OR THE TOUGH FIBRE OF THE LONDONERS”**  
— WINSTON CHURCHILL



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# THE BLITZ

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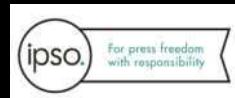
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**HISTORY**  
bookazine series



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**"IF THEY DECLARE THAT THEY WILL ATTACK OUR CITIES ON A LARGE SCALE, THEN WE WILL ERASE THEIRS! WE WILL PUT A STOP TO THE GAME OF THESE NIGHT-PIRATES, AS GOD IS OUR WITNESS"**

**- ADOLF HITLER**





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Image source: Getty

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TIMELINE OF

# THE BLITZ

Cities across Britain suffered intense bombing raids by the Luftwaffe during 1940-41, destroying buildings and lives but not morale

## BLACK SATURDAY 01

The Blitz begins in earnest when 348 Luftwaffe bombers accompanied by 617 fighters attack the Port of London. Bombs and incendiary devices are dropped on strategically important areas such as the Royal Docks. Approximately 460 people are killed, with a further 1,600 being injured.

Image: Wiki / PD / Gov

7 September 1940

August–November 1940

July–October 1940

25 August 1940

## BATTLE OF BRITAIN

The origins of the Blitz lie in the Luftwaffe's failure to eliminate the RAF before an invasion of Britain. The Germans initially apply strategic bombing to RAF Fighter Command's airfields but lose the battle when they divert their bomber aircraft to destroy British industrial centres.



Image: Getty Images

## BOMBING OF BERLIN

After a Luftwaffe attack on London on 24 August, RAF Bomber Command retaliates by launching bombing raids in Germany, including Berlin. The German capital suffers minimal damage but an infuriated Adolf Hitler, who is also frustrated with the lack of progress against the RAF, orders the Luftwaffe to concentrate their efforts against British cities.



Image: Getty Images

## BIRMINGHAM BLITZ 02

Raids steadily increase against Birmingham from August 1940 and reach a crescendo in a raid on the night of 19–20 November. Dozens are killed when the important Birmingham Small Arms (BSA) works is hit while 400 tons of high-explosive bombs are dropped across the city.

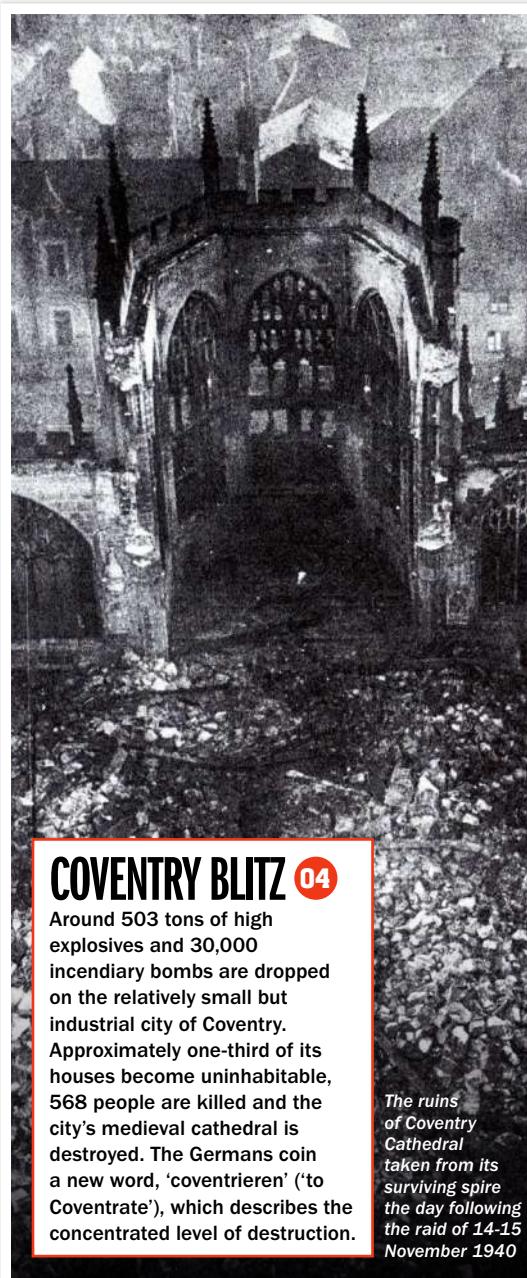
Firemen walk through Birmingham's Market Hall



Image: Alamy



A Heinkel He 111 bomber flies over Wapping and the Isle of Dogs in the East End of London, 7 September 1940



### COVENTRY BLITZ 04

Around 503 tons of high explosives and 30,000 incendiary bombs are dropped on the relatively small but industrial city of Coventry. Approximately one-third of its houses become uninhabitable, 568 people are killed and the city's medieval cathedral is destroyed. The Germans coin a new word, 'coventriren' ('to Coventrize'), which describes the concentrated level of destruction.

*The ruins of Coventry Cathedral taken from its surviving spire the day following the raid of 14-15 November 1940*

Image: Wiki / PD / CC / Go Show

### SHEFFIELD BLITZ 06

An important centre for steel production and armaments manufacturing, Sheffield's city centre suffers severe damage although its industrial areas are relatively unharmed. Nevertheless, 750 are killed (including 70 people in a hotel) and almost 3,000 homes and businesses are destroyed.



*A department store burns on Sheffield's High Street with an abandoned tram in the foreground, 12 December 1940*

Image: Wiki / PD / Go Show

14-15 November 1940

12-15 December 1940

24 November 1940

November 1940–May 1941



### LIVERPOOL'S AGONY 03

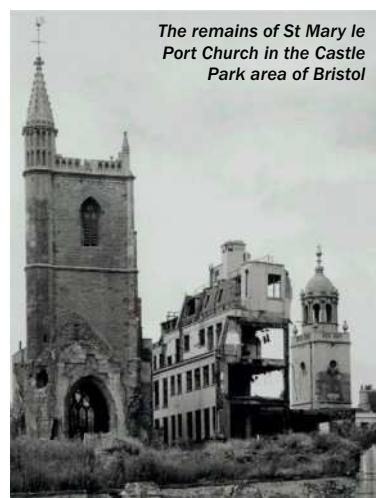
Merseyside becomes the most bombed area outside London and is often hit on consecutive nights. In May 1941, the area is bombed almost continuously for eight days. 1,900 people are killed, 1,450 are wounded and approximately 70,000 are made homeless.

*A view of the destruction in South Castle Street and Lord Street surrounding the Victoria Monument in Liverpool*

© Alamy

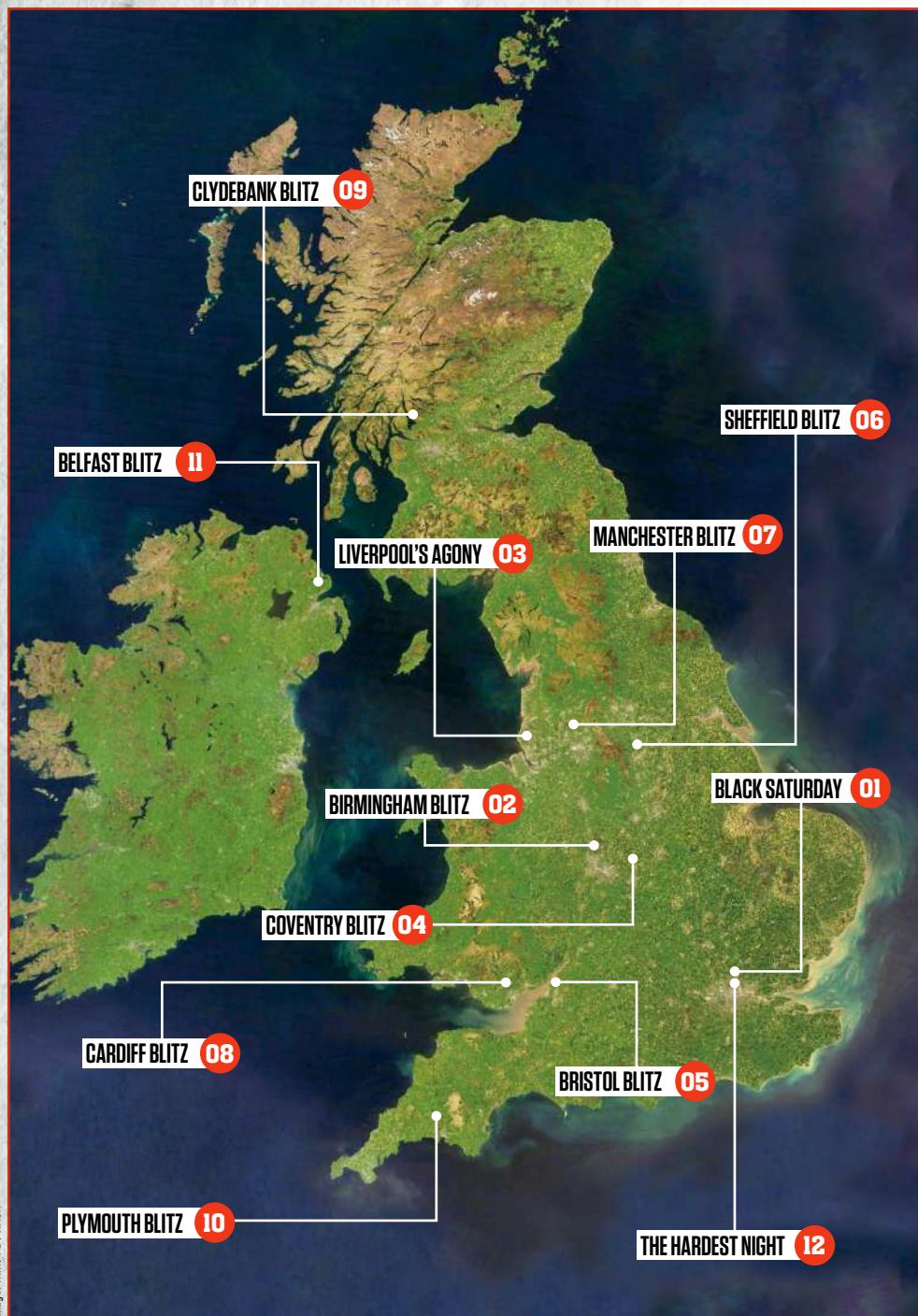
### BRISTOL BLITZ 05

With a strategic dock on England's west coast, Bristol is also home to aircraft factories. On 24 November 1940, a raid leaves over 200 dead and destroys many historic buildings including churches, almshouses and timber-framed structures.



*The remains of St Mary le Port Church in the Castle Park area of Bristol*

Image: Wiki / PD / Bristol Records Office



## CARDIFF BLITZ 08

Cardiff is not yet the capital city of Wales but its docks are a vital supply line for Britain. 100 Luftwaffe aircraft conduct a ten-hour raid in which 165 people are killed and 350 homes are destroyed. Among the many buildings to be damaged is Llandaff Cathedral.

*General scene showing destruction to residential housing following an air raid on the city of Cardiff*



## MANCHESTER BLITZ 07

Manchester is hit by nights of air raids that kill 684 people when the Trafford Park industrial area is targeted. The city's infrastructure is badly damaged, with both of its main railway stations and bus station being hit. Two major roads are also blocked with debris while water and electricity supplies are severely disrupted.

*Mancunian firemen battle to put out fires in blazing buildings, December 1940*

## CLYDEBANK BLITZ 09

The industrial town of Clydebank near Glasgow suffers two nights of raids, which is referred to as "a major disaster" by the Scottish Regional Commissioner. Overcrowded tenement housing and inadequate air raid shelters result in 35,000 people being made homeless out of a population of 50,000.



Image: Alamy

A fireman saves a little girl from bomb damage in Clydebank

## THE HARDEST NIGHT 12

London suffers its most devastating raid. 1,436 people are killed and the destruction is double that of the 1666 Great Fire of London. Over 43,500 civilians have been killed across Britain, although there is some respite from June 1941 when the Luftwaffe directs its attentions towards the USSR and the Mediterranean Sea.

Prime Minister Winston Churchill contemplates the ruins of the House of Commons, which is bombed on the night of 10-11 May 1941

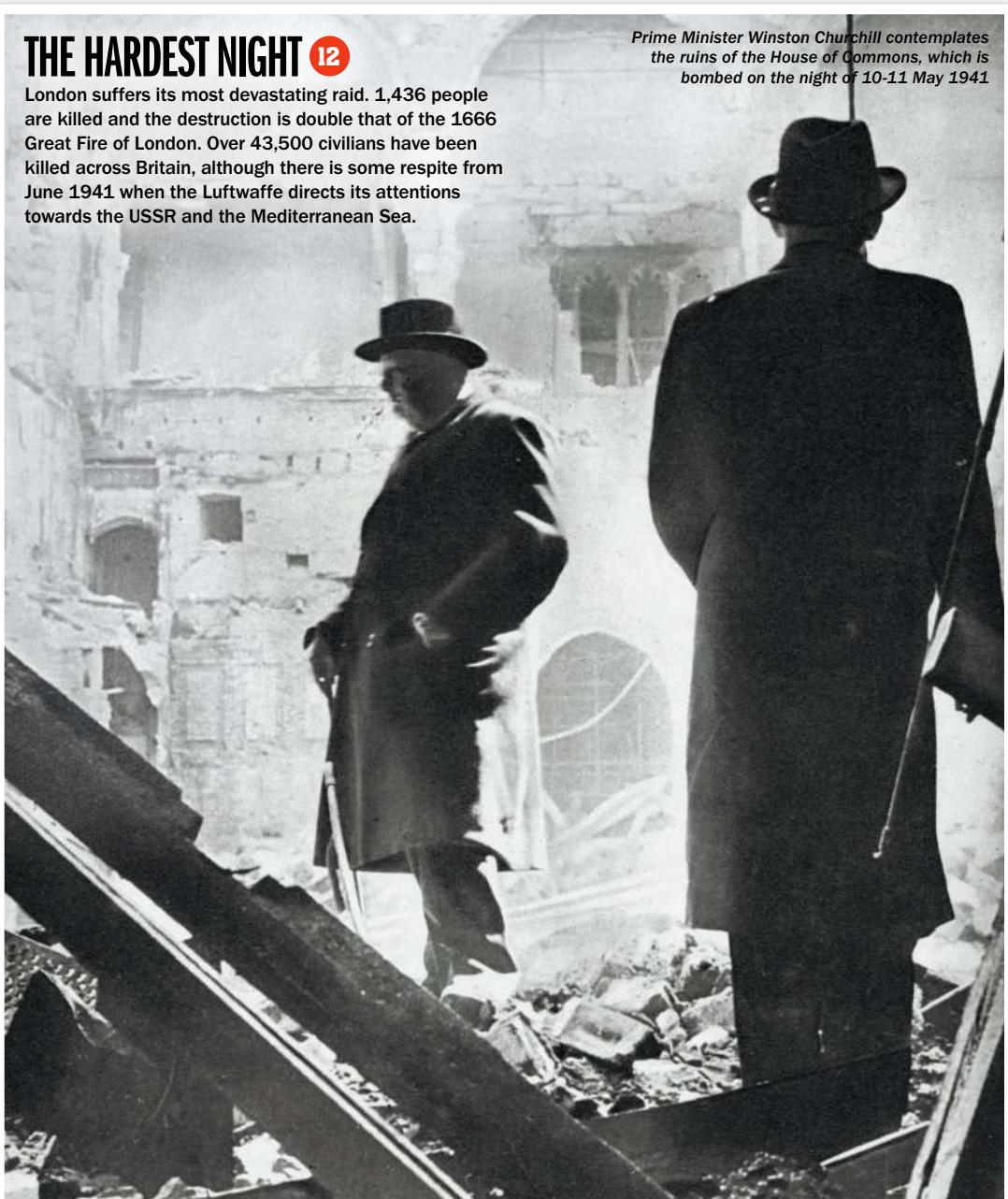


Image: Alamy

13-14 March 1941

March-April 1941

April 1941

10-11 May 1941

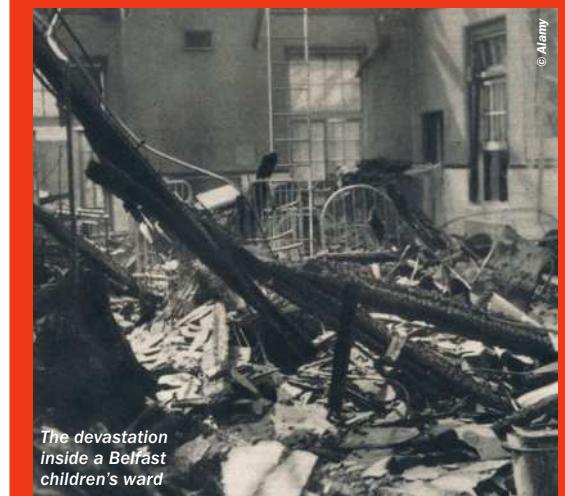
## PLYMOUTH BLITZ 10

The naval base of HMNB Devonport is targeted by the Luftwaffe but nearby Plymouth suffers severe damage. Over 900 are killed and 40,000 are made homeless. The city's Guildhall is destroyed along with several churches and main shopping streets.

Members of the Widdecombe family search through the rubble of their house in Plymouth



Image: Getty Images



The devastation inside a Belfast children's ward

## BELFAST BLITZ 11

The Luftwaffe conduct four raids over the Northern Irish capital, which is a major ship-building city. Insufficient shelters and anti-aircraft guns result in high casualties, including 900 killed on 15 April 1941. Raging fires result in fire crews being dispatched from both Éire and mainland Britain.

Image: Alamy

# THE BOMBING BEGINS

WITH EUROPE ON ITS KNEES AND GERMANY ASCENDANT, HITLER TURNED HIS ATTENTION TO OBLITERATING THE ONLY NATION STILL STANDING AGAINST HIM

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**"THIS IS NO WAR OF CHIEFTAINS OR OF PRINCES, OF DYNASTIES OR OF NATIONAL AMBITION. IT IS A WAR OF PEOPLES AND OF CAUSES"** - WINSTON CHURCHILL

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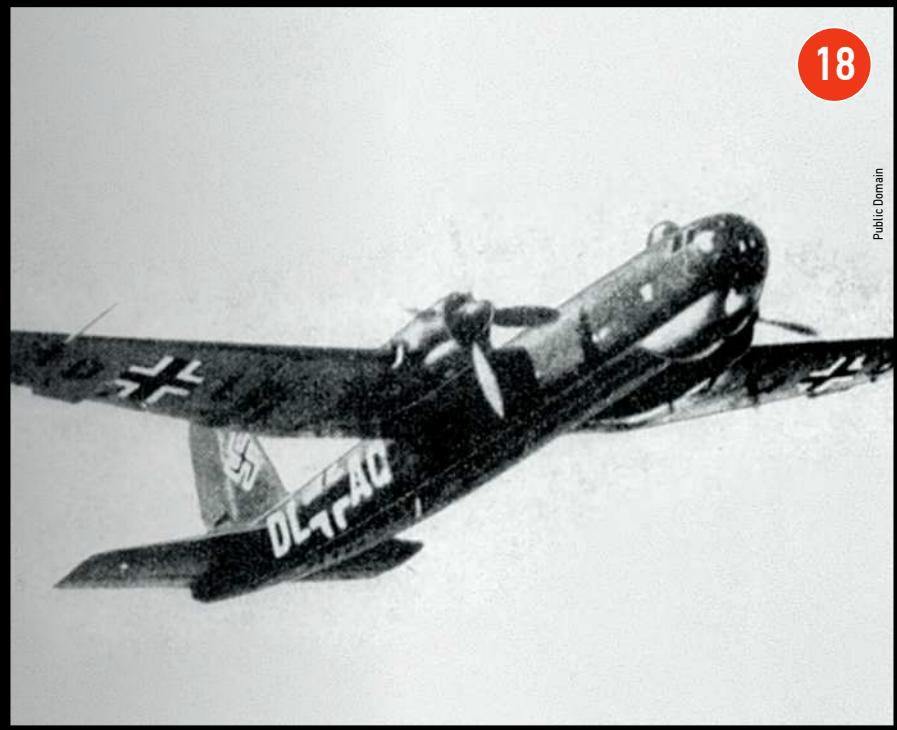
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# VICTORY IN SEPTEMBER

WORDS HARETH AL BUSTANI

After months of attrition over Britain, the RAF and Luftwaffe gambled everything on one great showdown



**B**y the time September 1940 rolled around, as the brutal and bloody British summer neared its end, Fighter Command and the Luftwaffe were both starting to sweat. On the final day of August alone the British lost 40 planes and nine pilots, with 18 more badly wounded. The battle of attrition over the skies of Britain was taking a heavy toll, and the attacks kept rolling in, one after another – killing scores of pilots, destroying planes and dealing blow after blow to the island's key sector stations. As September broke, things were so bad that Air Chief Marshal Hugh Dowding could no longer rotate his 11 Group squadrons so they could rest. Yet, despite the Luftwaffe's best efforts to cripple the RAF in quick fashion, that coveted critical blow continued to elude them. After absorbing yet another day of attacks, 11 Group Commander Keith Park personally convinced Winston Churchill that Britain could endure – his careful strategy of deploying small squadrons and targeting bombers had proved a wise one.

In the process, the Luftwaffe themselves had suffered grave losses, dwindling down from 900 fighters to 735 while, somehow, the RAF grew. And even after laying waste to Britain's sector stations, there was always a chance that the British might retreat to airfields beyond London – out of range of German planes. Though the Germans enjoyed

superior numbers and experience, the campaign was draining away their most experienced pilots, and the British were narrowing the gap. Despite Germany's superior access to labour and material, between June and September Britain produced 1,900 fighters, compared to Germany's 775. Crucially, Fighter Command was taking out more German planes than it lost. Even Göring was beginning to groan, "Is this my Luftwaffe?"

Hitler, too, was growing impatient. Having never truly committed to Operation Sealion, he was especially incensed at having to delay the invasion to 21 September because the Luftwaffe had failed to secure dominance of Britain's skies. Running out of time, Göring and Kesselring were desperate to draw the RAF into larger battles, where they might be able to deal a more crushing blow. For most of the Battle of Britain, although strategic bombing had proved incredibly costly to both sides, both Germany and Britain had avoided major cities. However, by the end of August more than 1,000 British civilians, including 136 children, had been killed. When a group of German bombers accidentally hit a residential quarter in London's East End, Britain responded by striking a German residential neighbourhood, killing eight and wounding 21.

Denouncing Churchill's "night attacks", Hitler roared, "If the British Air Force drops two, three or

four thousand kilos of bombs, then we will now drop 150,000, 180,000, 230,000, 300,000 or 400,000 kilos, or more, in one night." The stakes were particularly high for Göring, who had bragged that Berlin would never be bombed. Now he had the green light, he and Kesselring hoped that by bombing London they would not only draw the RAF into a larger engagement but clog up Britain's roads with fleeing vehicles.

On 7 September the gloves came off. Göring announced on the radio that he was personally taking charge of Operation Loge, named after the Norse god of fire. At just shy of 4pm British radars began flickering as a seemingly endless array of German planes throttled over the Channel. As plotters desperately pored over maps a horrifying image emerged – a Luftwaffe raid of unprecedented proportions, with a colossal 348 bombers and 617 fighters stretched three kilometres high. Expecting the Germans to split up and attack their southeastern airfields, within half an hour Fighter Command scrambled its squadrons. Aghast, they realised that the entire German fleet was headed straight for London. By the time Park gave the order to attack, the Thames' factories and docks were already erupting in flames.

As air-raid sirens blazed over the capital the gravity of the situation sank in, with residents

*Impatient, the Luftwaffe shifted its attention to Britain's capital, with disastrous results*

**"AS THE SUN EMERGED OVER A CLOUDLESS SKY ON 15 SEPTEMBER, GÖRING WAS RUNNING OUT OF TIME. THIS WAS HIS LAST CHANCE TO BREAK THE BACK OF BRITAIN'S AIR FORCE AND MAKE WAY FOR AN INVASION"**

*While the Spitfires engaged enemy fighters, Park told his Hurricanes to take down the bombers*

frantically scurrying to bomb shelters. Park sent out his squadrons in pairs, telling his Spitfires to focus on picking off fighters while the Hurricanes tore into the bombers. However, eager to show off his 'Big Wing' strategy, Squadron Leader Douglas Bader sent up a large fleet, which ended up overcrowding the skies, further adding to the confusion. By the time the British planes arrived the damage had already been done and the Germans were heading home. Though the Britons managed to take down 38 German bombers and fighters, they lost 28 of their own alongside a staggering 448 civilian lives in the capital.

It was a devastating defeat, one that was followed by a welcome reprieve when a bout of bad weather forced the Germans to stagger their assaults. The Luftwaffe pressed on with night-time raids, which the British were powerless to stop, lacking sufficient night fighters. However, the Luftwaffe's shift of focus away from airfields to London gave Fighter Command some much-needed breathing room. After months with their backs to the ropes, this was a sudden, crucial opportunity to regroup, and Dowding began rotating his squadrons again. As the Nazi war machine hammered down on their beloved capital, the people of Britain grew more defiant.

*As German bombs fell over Britain's capital terror rapidly turned to patriotic resolve*

than ever. On 9 September, a break in the weather allowed the Germans to return, but this time Fighter Command was ready. When the two Luftwaffe squadrons attempted to form a pincer movement, they were promptly intercepted – one forced to bomb Canterbury instead and the other pressured into dropping its payload over the countryside. While the RAF lost 17 planes and six pilots they took down 24 German aircraft and ten pilots.

With autumn creeping in, the window for a serious air victory was closing. As the weather

turned once again, Air Vice-Marshal Trafford Leigh-Mallory and Bader refined the latter's Big Wing strategy – enlarging the wing to five squadrons rather than three. Park, meanwhile, studied combat reports and concluded that his pilots should attack head-on as cohesive squadrons. He reminded them not to hunt down and kill fallen pilots but to damage as many planes as possible.

As the Sun emerged over a cloudless sky on 15 September, Göring was running out of time. This was his last chance to break the back of Britain's air force and make way for an invasion. Just after 11am, radars picked up German planes preparing to attack. Park co-ordinated his response under the watch of Winston Churchill himself. As the Women's Auxiliary Air Force began plotting out hundreds of bombers, Park remarked, "This, Mr Prime Minister, looks like the big one," and began scrambling his squadrons to meet the onrushing armada.

Brandishing the full force of Luftflotte 2 – 500 bombers alongside 500 Me 109s and 120 Me 110s – Kesselring split his forces, and this was just the preliminary raid. However, with only 25 Dorniers, protected by more than 100 Me 109s and 21 specially adapted Me 109s carrying 550-pound bombs, the attackers found themselves outnumbered for the first



*Image source: Getty Images*

time. As they hit Britain's coast the German fighters were picked off by buzzing Spitfires and Hurricanes. The panicked Dorniers huddled together to protect one another, making a suicidal press towards London only to see Bader's fabled Big Wing swoop in from the horizon. Ignoring the modified Me 109s, the Big Wing set upon the Dorniers like ravenous eagles, tearing seven out of the sky. As the 254 British fighters descended to refuel suddenly the radars went haywire, picking up more enemies than ever before. The storm had come – 114 bombers, joined by a colossal 340 Me 109s and 20 Me 110s.

Knowing this was a critical juncture, both sides made the ultimate gamble, with the Germans' sights set on the Royal Victoria and West India Docks. Predicting that only London could be the target of such an assault, Park pulled most of his squadrons back, launching a series of smaller assaults before finally throwing the full weight of the RAF at the invaders. One after another, 185 British fighters attacked in waves, tearing into the German bombers, while Bader's Big Wing clamped down on the German fighters. Broken, the Germans ran out of fuel, dropping their bombs wherever they could before turning back home, with the RAF in hot pursuit. Flak detonated all around them, swatting planes out of the skies in balls of flames. Livid, Göring ordered a second massed attack. When Churchill asked how many reserves were left, Dowding replied, "I have no reserves, sir, every aeroplane is in the sky". Fortunately for Britain, the second wave never came.

Though the RAF lost 29 aircraft and 12 pilots, they destroyed 56 Luftwaffe planes and killed or captured 136 pilots. Rather than the crushing defeat it had meant to be, it was a nail in the coffin of Operation Sealion and a serious blow to Nazi morale after months of assurances the British were teetering on collapse. Shifting her attention away from Fighter Command's infrastructure to London would prove to be one of Germany's most fatal mistakes. A deadly new phase of the war had now begun – a period of relentless bombing raids targeting Britain's cities. In time it would come to be known as the Blitz.



Image source: Getty Images



Image source: Alamy

## AIR VICE-MARSHAL KEITH PARK

THE MASTERMIND BEHIND BRITAIN'S MAGNIFICENT DEFENCE  
WAS ONE OF WWII'S UNSUNG HEROES

Keith Park was born in New Zealand in 1892 to Scottish parents and served as a volunteer in WWI. Having survived Gallipoli, he was promoted to Second Lieutenant before being badly wounded by a shell at the Somme. Declared unfit for duty, he joined the Royal Flying Corps. After shooting down 20 Germans and being shot down twice, he was awarded the Distinguished Flying Cross and Military Cross and bar, as well as the French Croix de Guerre.

Promoted to squadron commander, Park continued to serve the RAF, and in 1938 he was made Dowding's Chief of Staff before being promoted to Controller of the crucial 11 Group two years later ahead of Leigh-Mallory. A charismatic leader, he flew his own Hurricane to various airfields, explaining his tactics to pilots personally and lifting spirits at a crucial time when morale could easily have faltered.

Having orchestrated the remarkable response to the Battle of Britain, in 1941 he was sent to Egypt and later conducted the defence of Malta – a vital holding point between Europe and North Africa. Under his watch, Malta endured Luftwaffe bombing raids every single day for six months, turning the island into what Churchill called the "unsinkable aircraft carrier". After leading the air force's attack on British Malaya, he retired at the end of the war, eventually dying at the age of 82 in his native New Zealand.

**"UNDER HIS WATCH, MALTA ENDURED LUFTWAFFE BOMBING RAIDS EVERY SINGLE DAY FOR SIX MONTHS"**



Image source: Alamy

# GERMANY'S LONG-RANGE BOMBER CONUNDRUM

Prevailing German military doctrine and the death of a visionary air officer contributed to the defeat of the Luftwaffe in the Battle of Britain

**H**istorians generally agree that the seeds of Nazi Germany's defeat in the World War II were sown during the Battle of Britain. Royal Air Force fighters and anti-aircraft weapons downed so many black-crossed Luftwaffe planes that the Germans ended their bid for mastery of the air over the English Channel and the British Isles. Operation Sea Lion, the invasion of Britain, was shelved and never resurrected.

Perhaps, though, the defeat of the Luftwaffe in the great air battle was a foregone conclusion. Was Germany destined to lose the Battle of Britain before it began? Observers continue to debate this tantalising question, and some have concluded that the failure of Luftwaffe planners to commit to a heavy, four-engine, strategic bomber design in the 1930s actually spelled doom – not only in the skies above England in 1940 but with the inability to attack Soviet production centres beyond the Ural Mountains in the East a year later.

On 3 June 1936, Luftwaffe General Walther Wever, the foremost advocate of strategic bombing doctrine and the development of a long-range strategic bomber in the Nazi hierarchy, was killed in a plane crash. A concerted effort to develop the

**Below:** German factory workers build Heinkel He 111 medium bombers. The Luftwaffe depended on twin-engine bombers during the Battle of Britain

**Below, right:** Killed in a 1936 plane crash, General Walther Wever was a strategic bombing advocate

Dornier Do 19, Junkers Ju 89 and – most seriously – the Heinkel He 177 Greif four-engine bombers died with him. After Wever's death, no senior Luftwaffe officer championed the strategic bomber, even as Great Britain and the United States proceeded with their own development of legendary aircraft such as the Avro Lancaster, Boeing B-17 Flying Fortress and Consolidated B-24 Liberator.

Consequently, Germany entered the Battle of Britain with a capable air fleet; however, the backbone of its bomber force, the Heinkel He 111, Dornier Do 17, and Junkers Ju 88, were twin-engine, medium range bombers while the Ju 87 Stuka was a dive bomber. Although the four-engine Focke Wulf Fw 200 Condor had been adapted from a civilian passenger airliner and was a capable maritime patrol craft and attack aircraft, its shortcomings prevented large-scale deployment on a strategic level. Additionally, fighters and light and medium bombers were cheaper to construct than heavy bombers. They could be turned out in greater numbers during the Luftwaffe's pre-war buildup.

The bombload capacity of the He 111 was comparable to that of the Flying Fortress and Liberator on routine missions, but the aircraft's range was substantially shorter. Strategic bombers required sufficient armament to defend themselves, and German bombers were introduced with minimal machine-guns or mounted cannons. They initially offered little armour protection for pilot or crew.

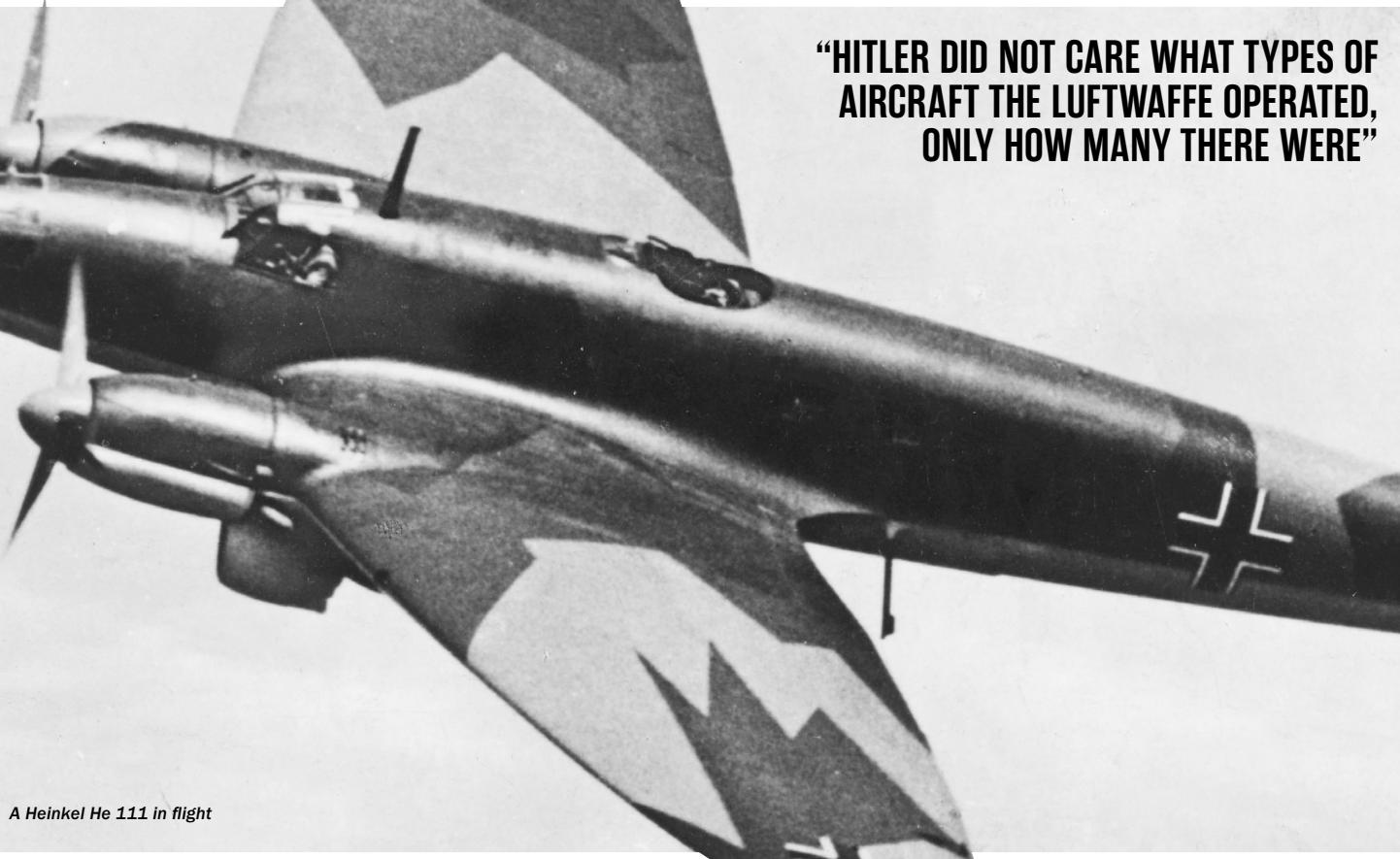
Further, in his capacity as Luftwaffe inspector of fighters and dive bombers, and later as head of the Technical Office and the Office of Supply and Procurement, World War I ace and national hero General Ernst Udet was enamoured with the dive-bombing concept as demonstrated by the Stuka during the Spanish Civil War and his own witness to a demonstration of American-built Curtiss dive bombers. He decreed that all future Luftwaffe bomber types should be capable of dive bombing at a 60-degree angle. Such a requirement was preposterous. Heavy bombers would require an even stronger airframe to withstand the stresses of a combat dive. Heinkel engineers were perplexed, and the design of the He 177 became unworkable.

Luftwaffe chief Reichsmarschall Hermann Göring also dismissed the controversy surrounding strategic bomber development. He once proclaimed that Hitler did not care what types of aircraft the Luftwaffe operated, only how many there were. He lacked Wever's strategic vision and failed to comprehend the disastrous result that would follow as German air leaders were reluctant to pursue a viable strategic bomber with any seriousness until at least 1940. On the eve of the Battle of Britain, however, it was too late. By 1944, when subordinates crowed that the heavy Allied bombers then ravaging the Fatherland were of inferior construction and design, Göring's belated frustration was clear as he retorted, "Well, those inferior heavy



"HITLER DID NOT CARE WHAT TYPES OF AIRCRAFT THE LUFTWAFFE OPERATED, ONLY HOW MANY THERE WERE"

Image: Wiki / PD / National Library of Poland



A Heinkel He 111 in flight

bombers of the other side are doing a wonderful job of wrecking Germany from end to end!"

The availability of a four-engine strategic bomber may well have provided the needed airpower to produce a Luftwaffe victory in the Battle of Britain. However, in the final analysis the outcome lay with the German perspective on a war of conquest in Europe. World War I had devolved into a lengthy war of attrition that Germany had eventually lost. Therefore, the war of 1939 had to be fought differently – swiftly and decisively if victory was to be achieved. The concept of the Blitzkrieg is practical

evidence of this perspective, and within it the role of airpower was one of tactical support. For example, the Ju 87 was a superb flying artillery platform. The He 111, Ju 88 and Do 17 were capable of accurate, focused tactical bombing and never intended for the continual bombing of population and manufacturing centres or to hold up amid the rigours of a sustained air campaign.

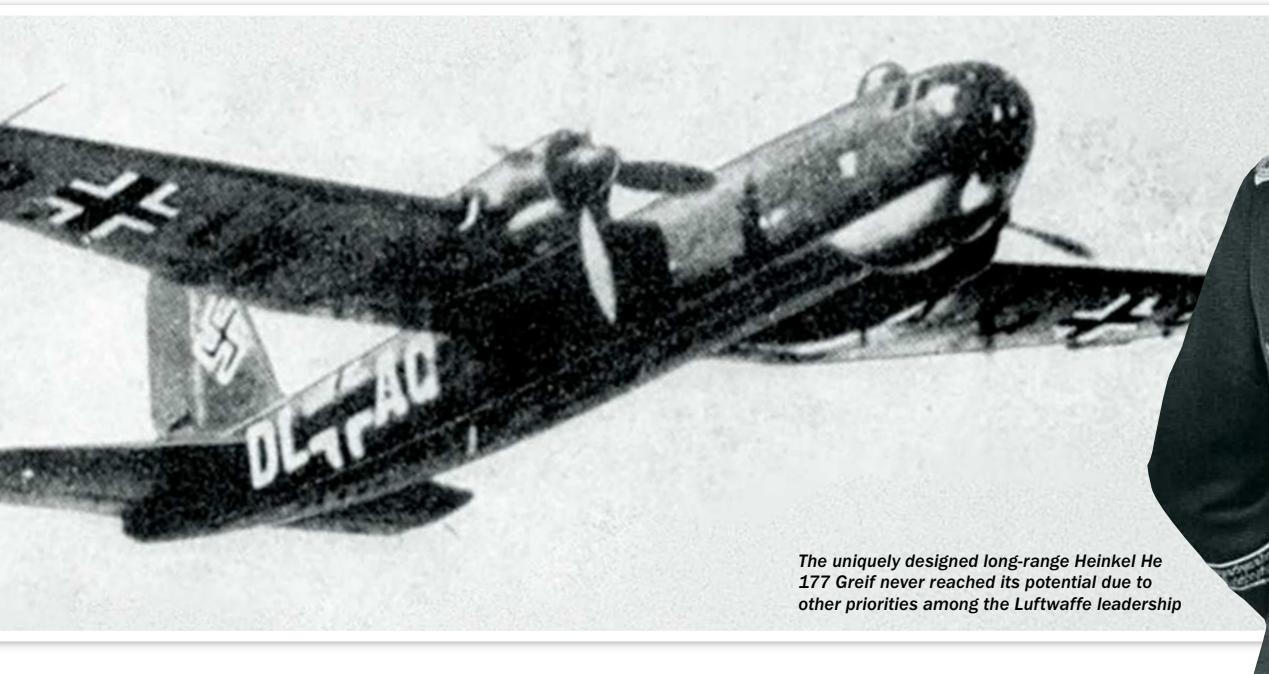
The absence of a strategic bomber in the Luftwaffe arsenal during the Battle of Britain is but a symptom of a larger inability of the German

military establishment to formulate a comprehensive blueprint for a war that would last any longer than a matter of months.

**Right:** World War I ace Ernst Udet failed as a senior administrator of the Luftwaffe during the inter-war years



Image: Bundesarchiv, Bild 146-1984-112-13 / Conrad - CC-BY-SA 3.0



*The uniquely designed long-range Heinkel He 177 Greif never reached its potential due to other priorities among the Luftwaffe leadership*

## THE BOMBING BEGINS





# THE FIRST RAIDS

The onset of the Blitz ravaged London and other cities, steeling the resolve of the British people

WORDS MICHAEL HASKEW

## THE BOMBING BEGINS

Prime Minister Winston Churchill watched as the great map of Britain was cleared of markers in the underground operations room at Royal Air Force 11 Group Headquarters in Uxbridge, Middlesex. This round of the Blitz, the terror bombing campaign launched by Adolf Hitler and his portly lieutenant, Luftwaffe Chief Field Marshal Hermann Göring, intended to break the spirit of the British people and compel their government to sue for peace, was over. The sky was clear of German raiders and defending RAF fighters.

Churchill turned to Air Vice Marshal Keith Park, commander of 11 Group, and asked, "What reserves have we?" Park matter-of-factly replied, "There are none." The date, Sunday, 15 September 1940, forever remembered as Battle of Britain Day, was the high water mark of the Nazi effort to defeat the RAF and control the air over the English Channel, paving the way for Operation Sea Lion, the long expected German invasion of Great Britain. Another Luftwaffe raid might well have broken the back of the RAF, but it did not come. Twice that day, 17 squadrons of RAF Fighter Groups 11 and 12 had risen to defend London. It was a near-run thing.

For the British people, the ordeal of the Battle of Britain had trebled a week earlier, when the

waves of Luftwaffe bombers were ordered to shift tactics from RAF airfields and installations to population centres such as London, Coventry, Birmingham, Liverpool, Manchester, Glasgow, Bristol, Southampton, Plymouth and Leicester. The Blitz, as it became known, had begun amid error and retaliation.

On the night of 24 August, a few German planes intending to strike military targets drifted off course and dropped their bombs on London's East End. Churchill responded by sending RAF bombers against Berlin the following night. Furious that Britain had been able to strike the German capital, Hitler flew into a rage and sanctioned the terror bombing that followed. In a bitterly ironic twist, the Nazis squandered their best opportunity to win the Battle of Britain. The shift from RAF airfields to British cities gave the beleaguered Royal Air Force some much-needed breathing room to recover and replace losses from weeks of air combat and ultimately defeat the Luftwaffe. Still, the British people paid a terrible price.

For 57 straight nights beginning 7 September 1940, London endured Luftwaffe air raids. On the first night alone, more than 300 tons of German bombs battered the East End, setting buildings

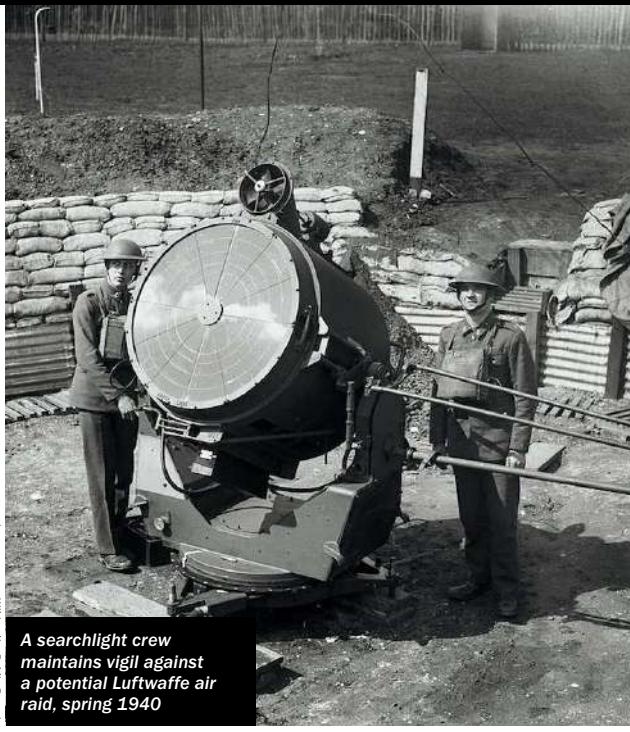


Image source: Wikipedia, Public Domain

A searchlight crew maintains vigil against a potential Luftwaffe air raid, spring 1940



Image source: Wikipedia, Public Domain

ablaze and trapping men, women and children amid heaps of rubble that once were their homes. In those terrible hours, nearly 700 bombers escorted by more than 600 fighters set the Surrey Commercial Docks ablaze. By 10 p.m. more than 1,000 fires burned as the flames spread to the East and West India Docks. The worst casualties of 7 September were suffered in Limehouse, Wapping and Rotherhithe, while clusters of bombs also fell on Canning Town, West Ham and Stepney. When the raiders departed, nearly 2,000 civilians had been killed or wounded while the Germans lost 63 planes and the RAF 42 precious fighters. One Royal Navy sailor on the River Thames remembered, "Smoke and sparks of all the fires swept in a high wall across the river. It was like a lake in hell."

It was only the beginning. On 9 September the Luftwaffe appeared over the capital again. This time, however, just about half the bombers found targets as fighters of 10, 11 and 12 Groups intercepted. While the slums of the East End bore the brunt of the Luftwaffe's fury in early September, on the 10th German bombs fell on fashionable Chelsea, and an explosive struck the north side of Buckingham Palace, where the royal family were residing. By the middle of the month, approximately

## "ON THE 10TH GERMAN BOMBS FELL ON FASHIONABLE CHELSEA, AND AN EXPLOSIVE STRUCK THE NORTH SIDE OF BUCKINGHAM PALACE, WHERE THE ROYAL FAMILY WERE RESIDING"

2,000 Londoners had died and more than 8,000 were wounded. Countless families were left homeless, and entire blocks where businesses once stood were burned out or riddled with holes.

Famed news correspondent Edward R. Murrow observed rescue workers and reported to his American audience, "They paid no attention to the bursts of anti-aircraft fire overhead as they bent their backs and carried away basketfuls of mortar and bricks. A few small steam shovels would help, but all the modern instruments seem to be overhead. Down here on the ground, people must work with their hands." On 15 September, the first German bomber formations were detected about 11 a.m. As they reached the southeastern coast of England RAF Supermarine Spitfires and Hawker Hurricanes were in formation, ready for action. From the ground, those Londoners seeking the safety of air raid shelters stopped to peer skyward, already

a patchwork of swirling aircraft, some trailing black smoke, puffs of anti-aircraft or 'ack-ack' fire and billowing parachutes. One German Dornier Do-17 bomber was shot to pieces by RAF Spitfires, eventually breaking in half in mid-air, the forward section crashing into the forecourt of Victoria Station while the tail heavily damaged a building on Vauxhall Bridge Road in Westminster.

Another bomb hit Buckingham Palace, and Queen Elizabeth later commented, "I'm glad we've been bombed. It makes me feel I can look the East End in the face." As the early raid ebbed, the RAF pilots hastily returned to their airfields. They rested briefly as swarms of armourers and riggers replenished .303-calibre ammunition and repaired battle damage as best they could while fuel tanks were filled. At 1:45 p.m. the scramble alert sounded again. Formations of up to 40 Luftwaffe bombers each, their Messerschmitt Me-109 and twin-engine Me-110 fighter escorts twisting above, made landfall about 2:15 p.m., minutes before a second and then third wave reached the Channel coast.

The RAF pilots charged into the bombers and took on the escort fighters in intense, brief and deadly dogfights. Bombs fell across London, but the attackers were riddled by the intrepid defenders. German bomber groups were losing scores of aircraft, and one formation of eight Dorniers was scattered, its crews so unnerved when confronted by fighters flying from their base at RAF Northolt that they turned and fled toward France. Yet a third raid materialised in the early evening of 15 September as 20 German fighter-bombers attempted a swift strike against the Supermarine aircraft plant at Southampton. No attacking planes were lost, but they failed to inflict significant damage.

Propaganda engines cranked up on both sides, claiming wildly exaggerated kill figures. Actually, German losses were 60 planes, while 29 RAF fighters failed to return to their bases. For the Germans, the losses were grievous enough that it was apparent that the battle was lost. On 17 September, Hitler postponed Operation Sea Lion.

Nevertheless, the Blitz was unrelenting, but the British people resolved to hold out under the terror bombing. The motto 'London can take it!' was frequently repeated, but by late September an estimated 177,000 Londoners were spending their nights in shelters, many in the tunnels of the Underground transit system. Across the island nation, the people were resolute. As German bombers droned overhead, one Manchester father told his son, "That's a Jerry. I can tell by the engine." The residents of the British capital did not receive a brief respite until late October. By then, the toll in airmen and planes had been substantial. RAF Fighter Command lost 1,017 planes and 537 pilots, while Bomber and Coastal Commands suffered a further 248 aircraft shot down and nearly 1,000 casualties. The Luftwaffe had sustained nearly 3,000 casualties and 1,733 planes destroyed.

Still the raids against London were far from over; even greater damage and loss of life lay ahead for the stoic people, who indomitable spirit has become the stuff of legend. Other British cities would continue to experience the wrath of the Luftwaffe as well during the days and nights to come.

*This street in the city of Birmingham was blasted by German bombers during the Blitz*



Image source: Wikipedia, Public Domain

# BLITZ AIRCRAFT

German bombers rained destruction during the campaign over Britain but took heavy losses in combat with the RAF

## DORNIER DO 17

THE DO 17 EXCELLED IN LOW-LEVEL BOMBING, BUT THAT ADVANTAGE WAS TAKEN AWAY WITH A LUFTWAFFE STRATEGIC SWITCH

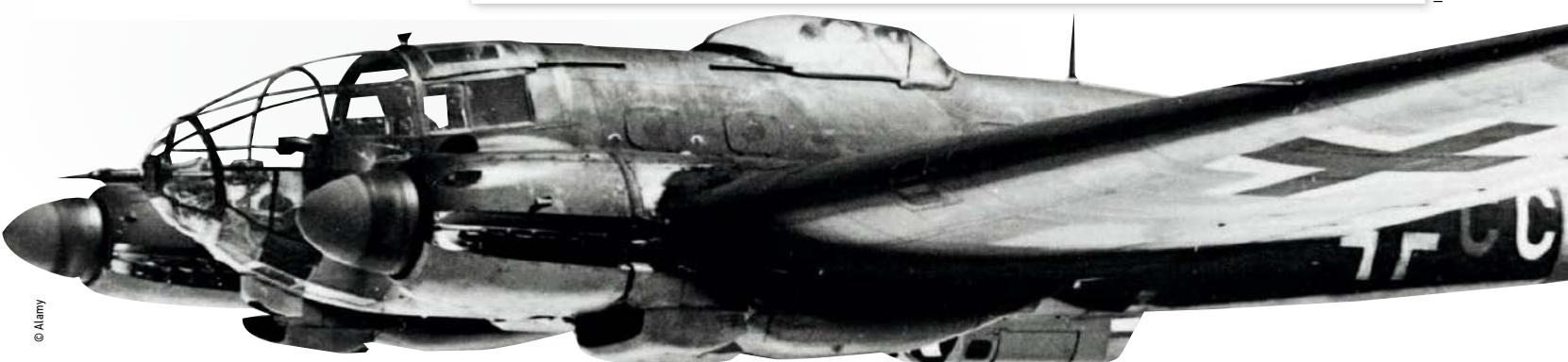
Nicknamed the 'Flying Pencil' due to its tapered fuselage, the Dornier Do 17 medium bomber entered Luftwaffe mass production early. With a crew of four or five, its maximum bomb load was 998 kilograms (2,200 pounds). Correcting design flaws that were revealed during the Spanish Civil War, the Do 17U variant was deployed throughout the Battle of Britain.

The Do 17 performed well at low altitude during the early days of the Battle of Britain, delivering its bombs accurately in attacks on RAF airfields and Chain Home radar sites. However, that advantage was neutralised when Luftwaffe strategy changed to bombing cities. Do 17 losses during the Battle of Britain are estimated at 132–171, fewer than the He 111 or Ju 88, but in August 1940 alone 54 were destroyed. Production was discontinued in mid-1940.



**"THE DO 17 PERFORMED WELL AT LOW ALTITUDE DURING THE EARLY DAYS OF THE BATTLE OF BRITAIN, DELIVERING ITS BOMBS ACCURATELY IN ATTACKS ON RAF AIRFIELDS AND CHAIN HOME RADAR SITES"**

Image: Bundesarchiv, Bild 101I-342-0033-25 / Kettelhohn / Kettelhohn / CC-BY-SA 3.0



## HEINKEL HE 111

THE MAINSTAY OF THE LUFTWAFFE BOMBER FLEET DURING THE BLITZ, THE HE 111 CARRIED A SUBSTANTIAL BOMBLOAD

The product of aircraft designers Walter and Sigfried Günter, the Heinkel He 111 medium bomber was developed in response to a 1934 Luftwaffe directive for a civilian passenger airliner easily converted to military specifications in wartime.

The He 111 entered service in 1936 during the Spanish Civil War. Relatively fast with a top speed of 415 kilometres per hour and light at a fully loaded combat weight of 11.83 tons, the bomber managed to outrun most fighter aircraft it encountered in Spain, encouraging Luftwaffe commanders that this would be the case in future engagements.

A crew of five operated the He 111, while its average bombload was 2,000 kilograms (4,410 pounds). With a range of 2,300 kilometres, the bomber was powered by twin 1,210-horsepower Junkers Jumo 211D-2 12-cylinder engines. Defensive armament included six 7.92mm machine-guns in nose, dorsal, ventral, tail, beam and gondola mounts, while some variants carried a 20mm cannon in the nose. Numerous revised designs were produced during the war years, with more than 6,500 completed, and the bomber served throughout WWII. Between July and October 1940, a total of 242 He 111s were destroyed over Britain in combat against RAF fighters and anti-aircraft defences.



Image: Wiki / PD / Martin Cizek

## JUNKERS JU 88

### THE VERSATILE JUNKERS JU 88 'SCHNELLBOMBER' WAS INTENDED TO UTILISE GREAT SPEED TO ELUDE ENEMY FIGHTER PLANES

The Junkers Ju 88 medium bomber was developed to specifications issued in early 1935 by the Reich Air Ministry and it proved to be one of the most versatile aircraft of World War II. It has been compared to the outstanding British de Havilland Mosquito.

Operated by a crew of four, the Ju 88 was heavier than both the Heinkel He 111 and the Dornier Do 17 fully loaded at 12.28 tons, including a maximum bombload of 2,500 kilograms (5,510 pounds). Nevertheless, it was faster, with a top speed of 441 kilometres per hour. Armed with six 7.9mm machine guns, the Ju 88 experienced serious losses during the Battle of Britain – greater than other German bomber types. From July to October 1940, a total of 303 were lost in combat or accidents.



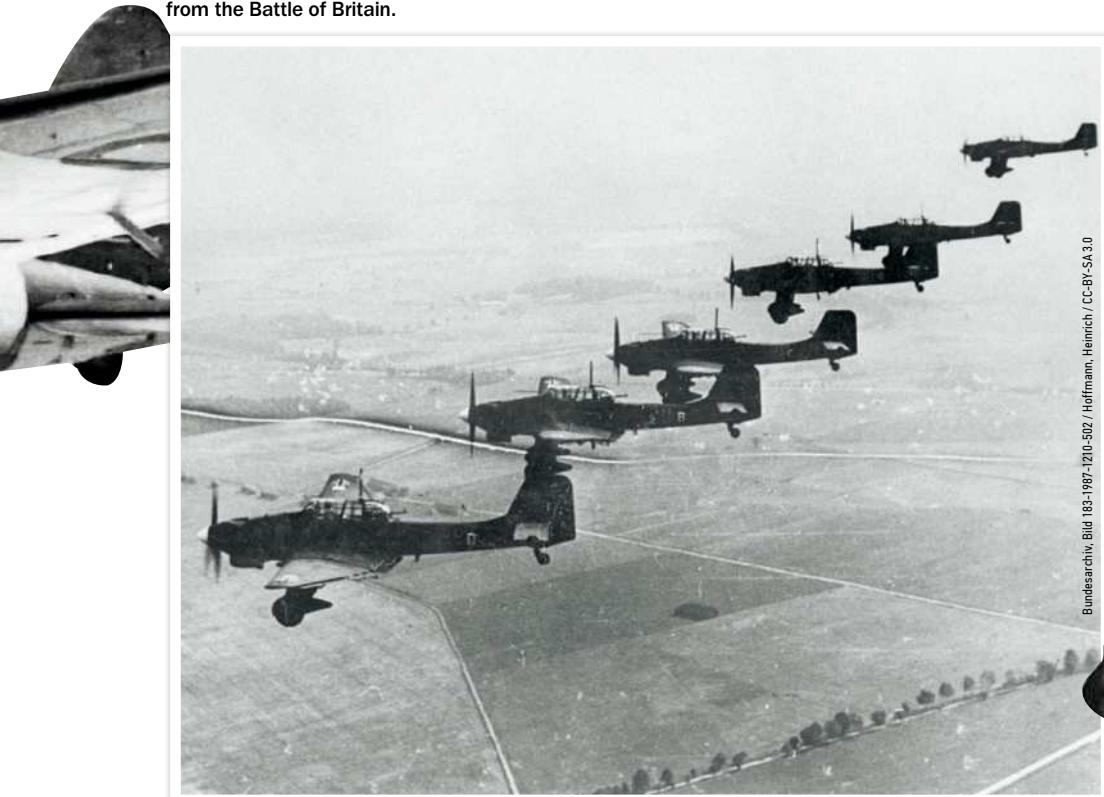
Image: Wiki / PD / National Library of Wales

## JUNKERS JU 87

### ALTHOUGH A FORMIDABLE DIVE BOMBER, THE JUNKERS JU 87 STUKA PROVED VULNERABLE TO RAF FIGHTERS DURING THE AIR CAMPAIGN

From its combat debut during the Spanish Civil War to its devastation of targets during the Blitzkrieg of 1939–1940, the Junkers Ju 87 Stuka proved a superb dive bombing platform and effective terror weapon, its Jericho Trumpets screeching as the gull-winged aircraft swept into a steep dive, delivering a maximum bombload of 500 kilograms (1,100 pounds).

Fully loaded at 4.92 tons with a two-man crew, the Stuka was ponderously slow, its top speed only 390 kilometres per hour, and was required to fly straight for lengthy periods to deliver ordnance accurately. This combination proved deadly when confronted by RAF fighters. Between 12–18 August 1940, a total of 41 Stukas were destroyed. Subsequently, the Ju 87 was withdrawn from the Battle of Britain.

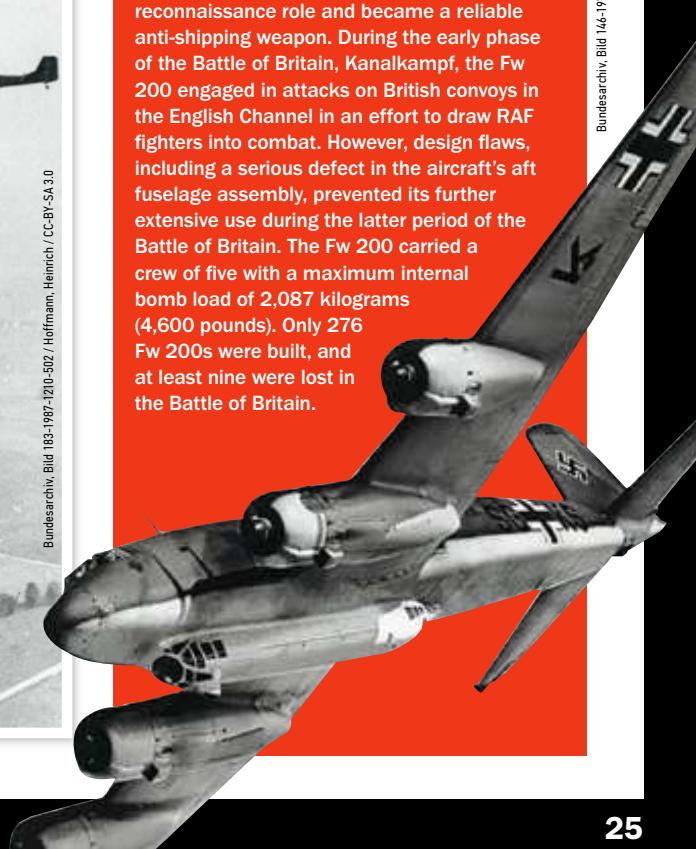


## FOCKE WULF FW 200 CONDOR

### A FINE MARITIME PATROL AIRCRAFT, THE FW 200 WAS MOST EFFECTIVE AGAINST BRITISH SHIPPING IN THE ENGLISH CHANNEL

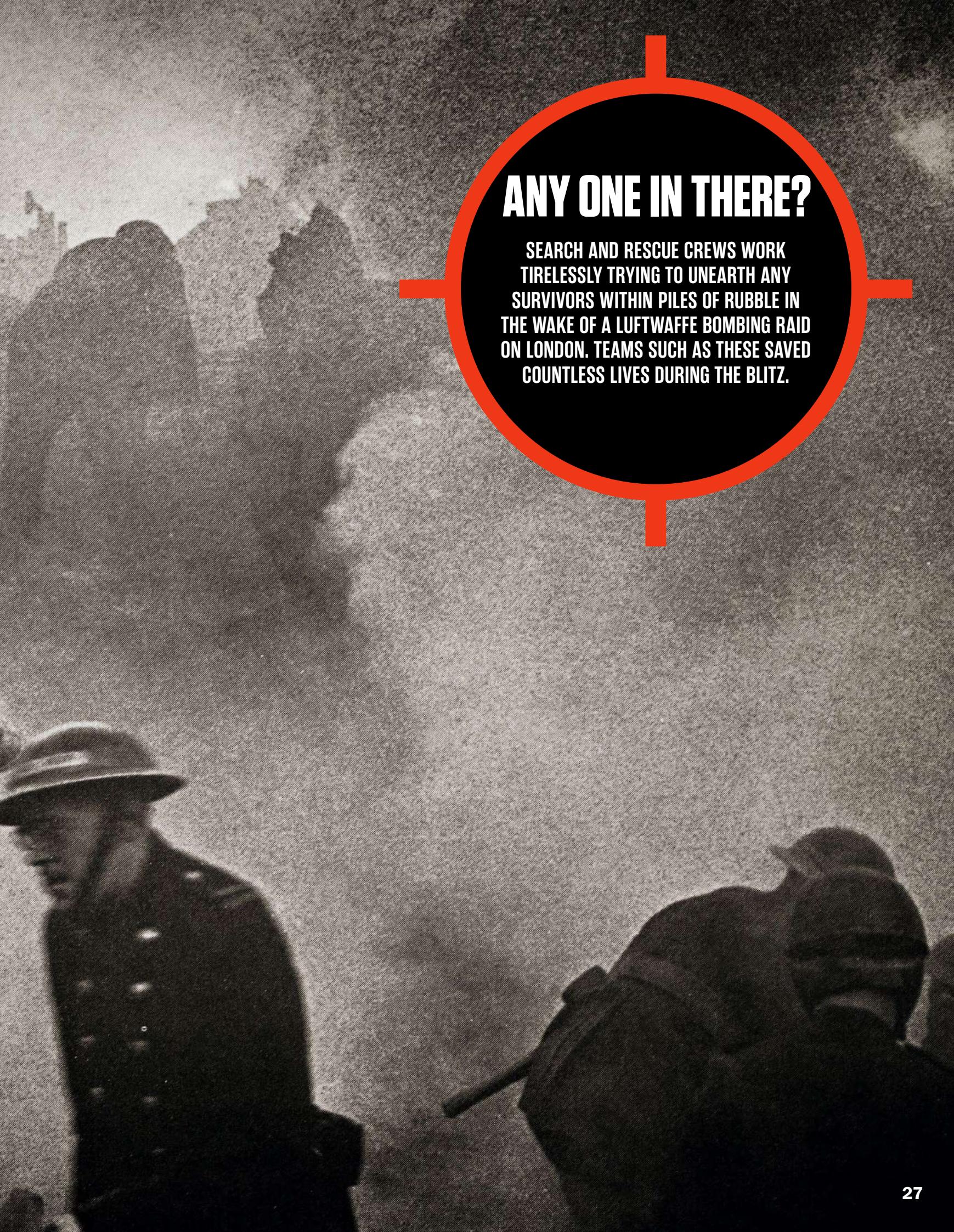
Although the Focke Wulf Fw 200 Condor was indeed a four-engine bomber, its effectiveness in a lengthy air campaign was limited. The Condor was at its best in a maritime patrol/reconnaissance role and became a reliable anti-shipping weapon. During the early phase of the Battle of Britain, Kanalkampf, the Fw 200 engaged in attacks on British convoys in the English Channel in an effort to draw RAF fighters into combat. However, design flaws, including a serious defect in the aircraft's aft fuselage assembly, prevented its further extensive use during the latter period of the Battle of Britain. The Fw 200 carried a crew of five with a maximum internal bomb load of 2,087 kilograms (4,600 pounds). Only 276 Fw 200s were built, and at least nine were lost in the Battle of Britain.

Bundesarchiv, Bild 146-1978-043-02 / CC-BY-SA 3.0



THE BOMBING BEGINS





## ANY ONE IN THERE?

SEARCH AND RESCUE CREWS WORK  
TIRELESSLY TRYING TO UNEARTH ANY  
SURVIVORS WITHIN PILES OF RUBBLE  
IN THE WAKE OF A LUFTWAFFE BOMBING RAID  
ON LONDON. TEAMS SUCH AS THESE SAVED  
COUNTLESS LIVES DURING THE BLITZ.

# JUNKERS JU 87 STUKA

WORDS MIKE HASKEW

After years of secretive development, the Junkers Ju 87 Stuka dive bomber emerged as a feared weapon of the Luftwaffe

## JUNKERS JU 87 STUKA DIVE BOMBER

**ORIGIN:** JUNKERS ENGINEER, HERMANN POHLMANN  
**LENGTH:** 11M  
**RANGE:** 600KM  
**ENGINE:** WATER-COOLED, INVERTED V-12 JUNKERS JUMO 211  
**PRIMARY WEAPON:** 499KG (1,100LB)  
**BOMB PAYLOAD**  
**SECONDARY WEAPON:** TWO WING-MOUNTED 7.92MM MG 17 MACHINE GUNS; SINGLE REAR-FACING MG 17 IN COCKPIT  
**CREW:** 2

*The Junkers Ju 87 Stuka is one of the most recognisable and vilified aircraft of the war. It spread terror and destruction along with spearheading the aerial phase of the blitzkrieg*

**T**he Junkers Ju 87 Stuka dive bomber – its nickname a shortened version of the German word for dive bomber, ‘Sturzkampfflugzeug’ – remains one of the most legendary aircraft of WWII. Its champion was Luftwaffe General Ernst Udet, who was second only to Manfred von Richthofen as the highest-scoring German fighter ace of World War I, claiming 62 aerial victories.

While participating in a stunt-flying exhibition in the US in 1931, Udet witnessed a demonstration of the Curtiss Hawk II, a superb American combination

**Below:** A squadron of Stuka dive bombers hold a tight formation in preparation to wing over into their characteristically steep dives



fighter and dive bomber. Captivated by the plane's precision bombing and performance, he procured two Hawks for assessment in Germany.

At the same time, German aircraft manufacturers were working to circumvent the restrictions on offensive aircraft imposed under the Treaty of Versailles. The Junkers Flugzeugwerke AG had purchased a manufacturing facility in Sweden and developed the K 47 there, while the Henschel firm's Hs 123 also showed promise as a dive bomber.

Both firms exerted influence on the progress of the Ju 87 under Junkers engineer Hermann Pohlmann, who had been working on dive bomber prototypes since the late 1920s. The all-metal Ju 87 developed into an excellent dive-bombing platform, its fixed landing gear adding to the plane's sturdy construction and assisting the dive brakes.

Although several engines were utilised, the inverted V-12 water-cooled Junkers Jumo 211 powered the first production models of the most common Ju 87B series. The first Ju 87 prototype flew on 17 September 1935, and the pre-production Ju 87A began rolling off assembly lines the following year. During WWII, the Stuka became a feared aerial weapon, forever identified with the Nazi blitzkrieg, or ‘lightning war’. By the end of the war, more than 6,000 Stukas had been manufactured, with over a dozen variants in seven major series.

**“THE ALL-METAL JU 87 DEVELOPED INTO AN EXCELLENT DIVE-BOMBING PLATFORM, ITS FIXED LANDING GEAR ADDING TO THE PLANE'S STURDY CONSTRUCTION AND ASSISTING THE DIVE BRAKES”**



Image

**Right:** A dashing young Ernst Udet, shown here during WWI, became a champion of the Stuka dive bomber and the aircraft type in general as the Luftwaffe developed into a formidable offensive weapon in the 1930s



### ENGINE

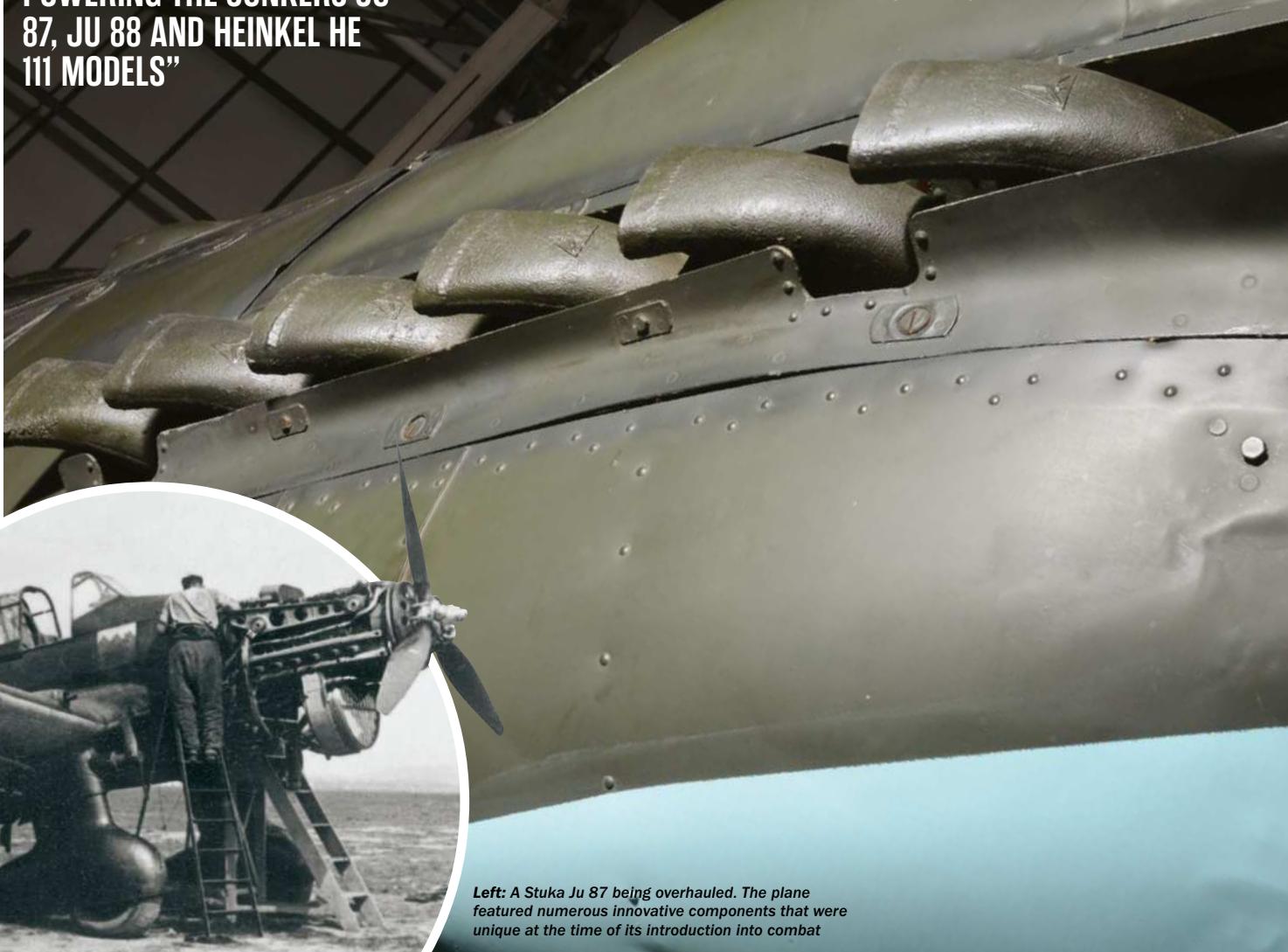
The Junkers Jumo 211 inverted V-12 water-cooled engine was produced in greater numbers than any other German aircraft power plant during WWII. In response to a 1934 appeal from the Luftwaffe Air Ministry, Junkers engineer Doctor Franz Josef Neugebauer led the team that completed the prototype Jumo 211 the following year. The Jumo 211 series was the primary power plant of Luftwaffe multi-engine bombers throughout the war, powering the Junkers Ju 87, Ju 88 and Heinkel He 111 models. Nearly 70,000 were manufactured by 1945. The 14 variants in the Jumo 211 series generated up to 1,500 horsepower.

*Right: Widely distributed to manufacturing facilities of Luftwaffe aircraft, the Junkers Jumo 211 inverted V-12 engine powered numerous types during WWII*

**“THE JUMO 211 SERIES WAS THE PRIMARY POWER PLANT OF LUFTWAFFE MULTI-ENGINE BOMBERS THROUGHOUT THE WAR, POWERING THE JUNKERS JU 87, JU 88 AND HEINKEL HE 111 MODELS”**



*The exhaust pipes of the Junkers Jumo 211 engine jut out from the cowling. The engine proved durable and performed under the harshest climate conditions, particularly on the Eastern Front and in North Africa*



*Left: A Stuka Ju 87 being overhauled. The plane featured numerous innovative components that were unique at the time of its introduction into combat*



A large bomb sits fixed to the underside of a Stuka by its external cradle apparatus. The plane carried multiple sizes of ordnance along with machine guns that were used to ward off enemy fighter planes and to strafe ground targets



*Left: In this chilling frame, a Stuka dive bomber unleashes its deadly cargo against enemy positions. It appears that the plane has delivered a large anti-armour or high-explosive bomb along with a pair of smaller fragmentation bombs*

## ARMAMENT

The Junkers Ju 87 Stuka devastated enemy troop concentrations, communication centres and fortified positions. Its primary weapon was its bomb load, including ordnance such as 998-kilogram (2,200-pound) anti-armour bombs; 499-kilogram (1,100-pound) high-explosive bombs, which were effective against fortifications; 227-kilogram (500-pound) general-purpose bombs; and 50-kilogram (110-pound) fragmentation bombs. Early variants carried two 7.92mm MG 15 or MG 17 machine guns, one firing forwards and one to the rear. Others mounted an additional forward-firing machine gun. The Ju 87G, a tank-buster with two wing-mounted Rheinmetall 37mm BK cannons, appeared on the Eastern Front in 1943.

**“EARLY VARIANTS CARRIED TWO 7.92MM MG 15 OR MG 17 MACHINE GUNS, ONE FIRING FORWARDS AND ONE TO THE REAR, FOR AIR DEFENCE AND STRAFING”**



*A Luftwaffe sentry guards an airfield where Junkers Ju 87 dive bombers are being fitted with ordnance for the day's combat mission. Bombs lie in the foreground awaiting attachment to the dive bombers*

**"EASILY DISTINGUISHED WITH ITS INVERTED GULL WINGS AND FIXED LANDING GEAR SPORTING LARGE SPATS, THE JUNKERS JU 87 STUKA DIVE BOMBER CONJURED UP IMAGES OF A SINISTER BIRD OF PREY"**



*The Junkers Ju 87's cockpit featured a standard instrument cluster located in the centre of the forward panel*



*The rear gunner manned a defensive machine gun. After a bomb run, the pilot sometimes manoeuvred to allow the rear gunner to fire at targets on the ground*

## COCKPIT

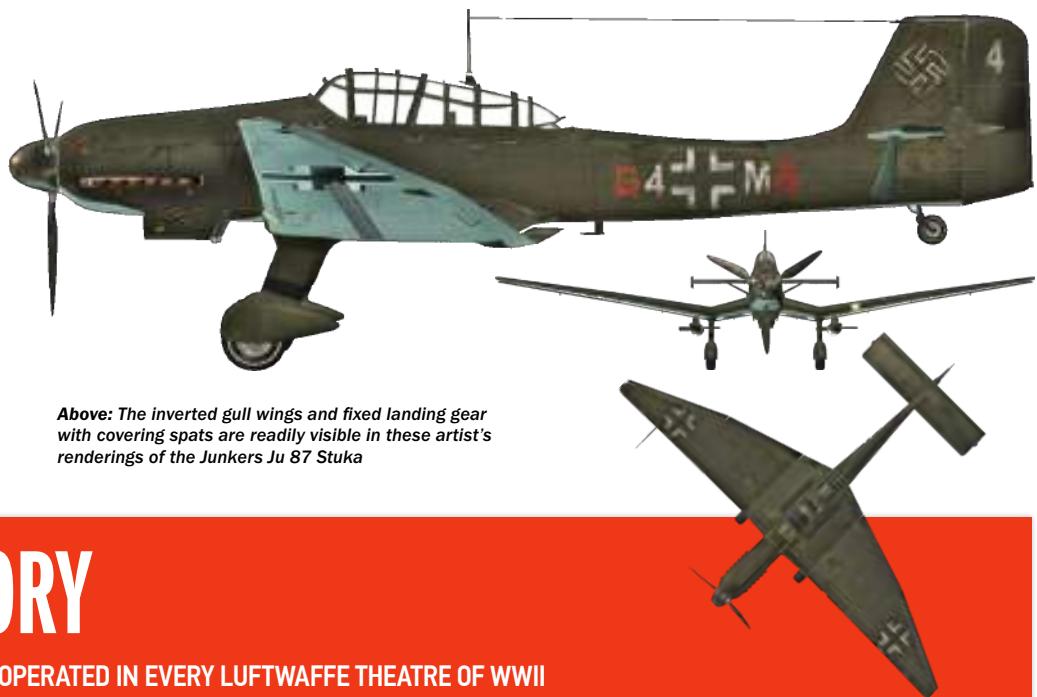
The two-man Junkers Ju 87 dive bomber featured a cockpit with standard instrumentation, including the centre cluster of gauges used for 'instrument flying', such as the altimeter, compass, horizon indicator and a variometer to denote the rate of climb or descent. A ventilation nozzle for the flight deck was centred at the top of the panel while the Rev C/12D gunsight was offset to the right. The tachometer, boost meter and primer pump could be found below. The clock, radiator valve actuation buttons and power control switch were to the left with auxiliary consoles on each side. The bomb-release trigger was housed on the control stick.



*The Stuka pilot was sometimes required to deal with limited vision as his primary focus was on acquiring the target for a bomb run. This photo reveals the narrow circumference of the forward section of the cockpit canopy*

## DESIGN

Easily distinguished with its inverted gull wings and fixed landing gear sporting large spats, the Junkers Ju 87 Stuka dive bomber conjured up images of a sinister bird of prey. The plane included numerous state-of-the-art features, such as automatic engine and propeller controls, along with an automatic pull-up dive brake system that activated with the release of the bomb payload, assisting in pulling out of a dive when the pilot was susceptible to blackout due to high G-forces. Pilots appreciated the Stuka's sturdy airframe, which incorporated aluminium sheeting, alloys called Pantal and Elektron, which contained titanium and magnesium, and steel.



*Above: The inverted gull wings and fixed landing gear with covering spats are readily visible in these artist's renderings of the Junkers Ju 87 Stuka*

## SERVICE HISTORY

### AN ICON OF THE BLITZKRIEG, THE JU 87 OPERATED IN EVERY LUFTWAFFE THEATRE OF WWII

At 4.36 a.m. on 1 September 1939, three German Junkers Ju 87 Stuka dive bombers screamed down on bridges across the Vistula River in Poland, executing the first air raid of World War II. The Ju 87 became an early scourge east and west as the Blitzkrieg ravaged Europe. Employed as flying artillery, Stukas inflicted heavy casualties, many pilots having already honed their skills with the Condor Legion during the Spanish Civil War.

Nine Ju 87 bomb groups were deployed to Poland, flying over 6,000 missions. One pilot remembered, "We came across throngs of Polish troops, against which our 100-pound fragmentation bombs were deadly.

After that, we almost went down on the deck firing our machine guns. The confusion was indescribable."

The Stuka was also a weapon of terror. Some were equipped with sirens, nicknamed Jericho Trumpets, which wailed as the planes plummeted, devastating civilian targets such as the cities of Warsaw and Rotterdam.

Despite its sterling dive bomber, ground attack and anti-shipping performance, the Stuka's Achilles' heel was exposed during the Battle of Britain in 1941. The slow-flying aircraft confronted sustained, co-ordinated defences in the fighters and pilots of the RAF. In six weeks, 92 Stukas were damaged or destroyed. In ten days, more

than 20 per cent of those engaged were lost, and Luftwaffe chief Hermann Göring withdrew them from the campaign.

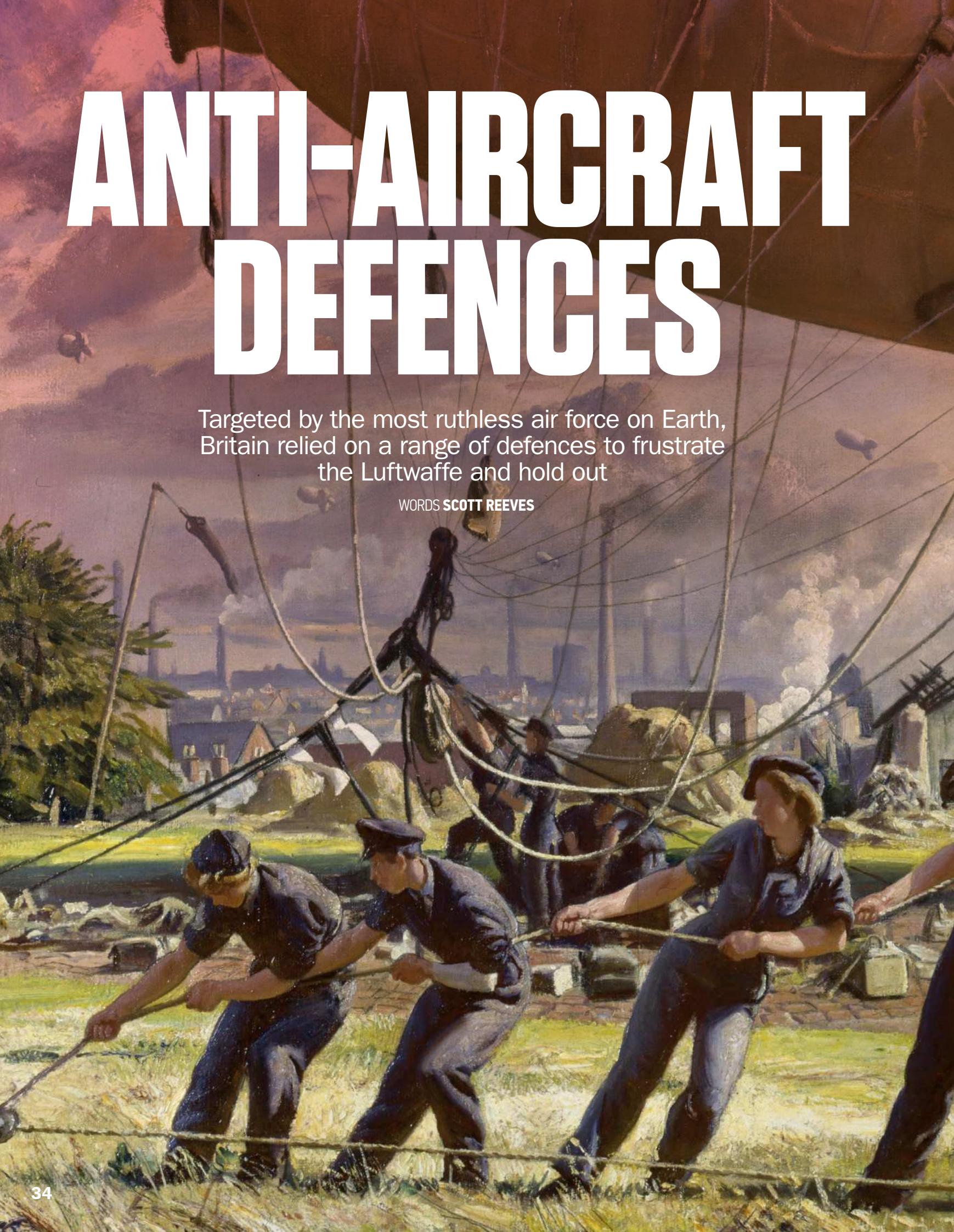
Nevertheless, Ju 87s remained viable throughout the European theatre; numerous variants with power plant and design modifications were introduced. Colonel Hans-Ulrich Rudel, the most successful Stuka pilot, flew several types, including the tank-killer Ju 87G equipped with 37mm cannons. Rudel, the sole recipient of the Knights Cross with Gold Oak Leaves, Swords and Diamonds, destroyed more than 500 Soviet tanks, at least 300 other vehicles, sank a cruiser and damaged a battleship. The legend of the Stuka spawned the legend of Rudel.

**"WE CAME ACROSS THRONGS OF POLISH TROOPS, AGAINST WHICH OUR 100-POUND FRAGMENTATION BOMBS WERE DEADLY. AFTER THAT, WE ALMOST WENT DOWN ON THE DECK FIRING OUR MACHINE GUNS. THE CONFUSION WAS INDESCRIBABLE"**



*A Stuka sits idle at an airfield while bombs are lined up nearby*

# ANTI-AIRCRAFT DEFENCES



Targeted by the most ruthless air force on Earth, Britain relied on a range of defences to frustrate the Luftwaffe and hold out

WORDS SCOTT REEVES

**T**he British Government didn't have much confidence in their ability to stop German bombs raining down. As Prime Minister Stanley Baldwin admitted in 1932, "the bomber will always get through". Experts predicted the Luftwaffe would drop 3,500 tons of bombs on Britain in the first 24 hours of conflict. Weeks of follow-up raids would continue the devastation. Hospitals were told to expect 300,000 casualties. Plans were drawn up to help the authorities cope with 250,000 burials.

Despite the dire warnings, only modest defences were put in place to combat the expected enemy bombers. The country's seven anti-aircraft divisions were poorly equipped. They were manned by the Territorial Army rather than regular units. Little effort went into training fighter pilots for night combat. The coordination of civil defence was left to local authorities. The lack of effective bomber protection was the result of the air force's outdated attitude that attack was the best form of defence. Rather than trying to stop bombing raids as they happened,

the RAF hoped to remove the ability of the Luftwaffe to launch raids at all by destroying airfields, aircraft factories and fuel refineries. Yet this was not a plan with much chance of success. RAF bombers lacked the ability to target so accurately and Germany was churning out huge numbers of new aircraft.

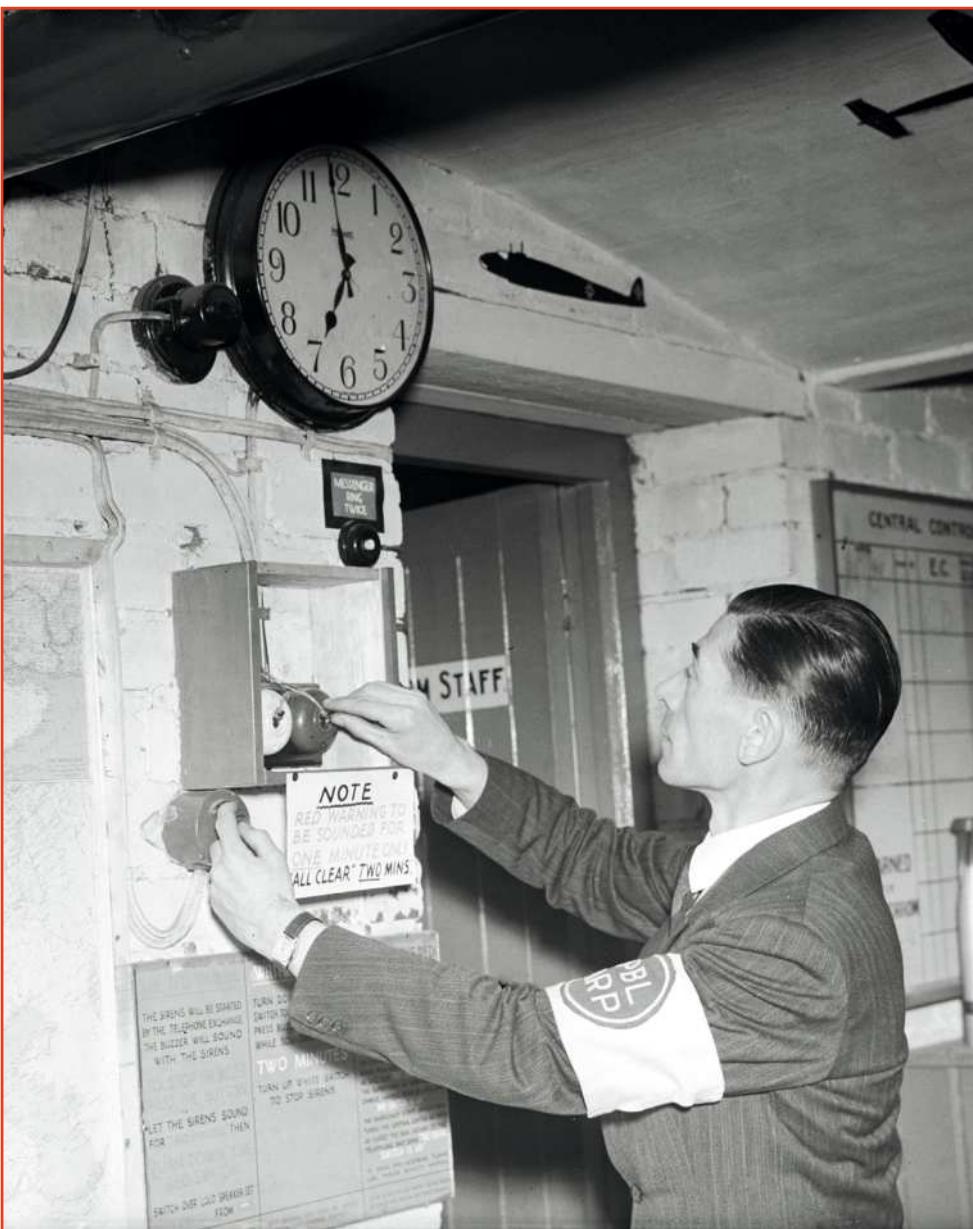
A saving grace came in the form of the quiet months of the Phoney War (3 September 1939 to 10 May 1940). A few extra weeks provided an opportunity for a desperate attempt to shore up Britain's fragile anti-bomber defences.



# AIR RAID SIRENS

Minutes after Britons heard Neville Chamberlain's voice declare war on Germany over the wireless, the ominous howl of air raid sirens began. It was a false alarm caused by unidentified Allied aircraft, but the warbling rise and fall of the sirens, nicknamed 'Wailing Winnie' or 'Moaning Minnie', soon became a regular refrain across the country. Every community had a siren: a hand-cranked model in rural areas and electric sirens in larger areas. People were told to make for their nearest shelter when they heard them. However, not everybody did, especially if they thought the Luftwaffe were flying onwards to a different target. Some cinemas continued showing films for those who wished to remain behind and some critical workers were expected to remain at their stations until a second signal announced that the Luftwaffe were directly overhead. When the bombers were gone, the all-clear – a long blast from the siren – signalled it was safe to leave the shelter.

**"CRITICAL WORKERS WERE EXPECTED TO REMAIN AT THEIR STATIONS UNTIL THE LUFTWAFFE WAS OVERHEAD"**



## BARRAGE BALLOONS

When the Blitz began, the RAF had a fleet of 1,400 barrage balloons flying above Britain, a third of which defended London. They protected cities against the kind of devastation that Luftwaffe dive bombers had unleashed on Guernica and Rotterdam. Any German pilot foolhardy enough to attempt a low-level bombing run among barrage balloons risked being snagged by the metal cables tethering the balloons to the ground. Explosives were added that would be automatically detonated if the cable was touched. Although only 24 German planes were brought down by balloon cables, their real impact was greater. By forcing the Luftwaffe to fly at higher altitudes, the balloons sent bombers into the preferred range of anti-aircraft guns. The silent silver sentinels of the sky remained in place until the end of the war, a morale booster to British civilians every time they looked up.

# BLACKOUT

As dusk fell on the day Germany invaded Poland, 1 September 1939, Britain went dark. It remained so for almost six years. The hope was a night-time blackout would prevent German bombers from navigating to and identifying their targets.

Windows were covered by blinds, heavy curtains or paint to prevent any glimpse of light escaping. Shops installed airlock-style double doors to allow customers to enter and exit. Street lights were turned off. Vehicle headlights and traffic lights were fitted with slits to deflect beams downwards. Yet while these measures may have made life tougher for bomber crews, they also made the streets a more dangerous place to be after dusk.

The blackout was one of the most unpopular aspects of the war. Accidents and crime increased. The grumpy shout of an ARP warden complaining about escaping light was common, and the typical fine for repeated breaches was £2.

Despite most of Britain going dark, some areas were deliberately lit up. Clever tricks were employed to recreate industrial areas: red lamps looked like furnaces, and lights were set under thin wooden panels as pretend factory skylights. Just as with the blackout, the aim was to confuse the Germans and divert them from their intended target.





## RADAR

In 1935, panicked military leaders in Britain heard that German engineers were developing a radio-based death ray. Scientists quickly calmed their fears but pointed out that radio waves did have an alternative military use – they could identify and track enemy aircraft.

By the outbreak of war, Britain had a network of radar stations along the south and east coast known as Chain Home. Almost as soon as a flight of enemy aircraft passed over the English Channel, radar operators could estimate the number of incoming planes and their direction of travel. Armed with this information, they warned possible targets

and despatched fighters to intercept. The Luftwaffe underestimated the impact of the Chain Home radar and made little attempt to destroy the towers.

The best way to avoid radar was to fly low – a risky business in a heavily laden bomber – or to fly at night when fighters were far less effective. This worked until radar technology was tweaked, and, on the night of 19–20 November 1940, a Junkers Ju 88 bomber was shot down during a raid over the city of Birmingham. It was the first bomber downed by a Bristol Beaufighter using new airborne interception radar. No longer could the Luftwaffe use the hours of darkness as protection from Fighter Command.



Image source: Getty Images



## SEARCHLIGHTS

Anti-aircraft guns were useless if their operators could not see enemy planes overhead, a huge problem since the Luftwaffe launched the vast majority of their bombing raids at night. Searchlights became the eyes of the AA gunners. Once an incoming raid was spotted – initially via rudimentary sound locators that amplified the distant drone of aircraft engines, later by radar – the enemy's course and elevation was relayed to searchlight control stations. At each light, three-person crews tried

to pinpoint the bombers in the sky. Once illuminated, they kept their beams trained on the target while AA guns tried to engage them. Bigger lights produced 800-million-candela beams and, on clear nights, were visible from 48 kilometres away. Searchlight crews tended to stand away from their lights, making it easier to look up without a blindingly bright light path next to them. It was also safer since an illuminated searchlight was a tempting target from the air.

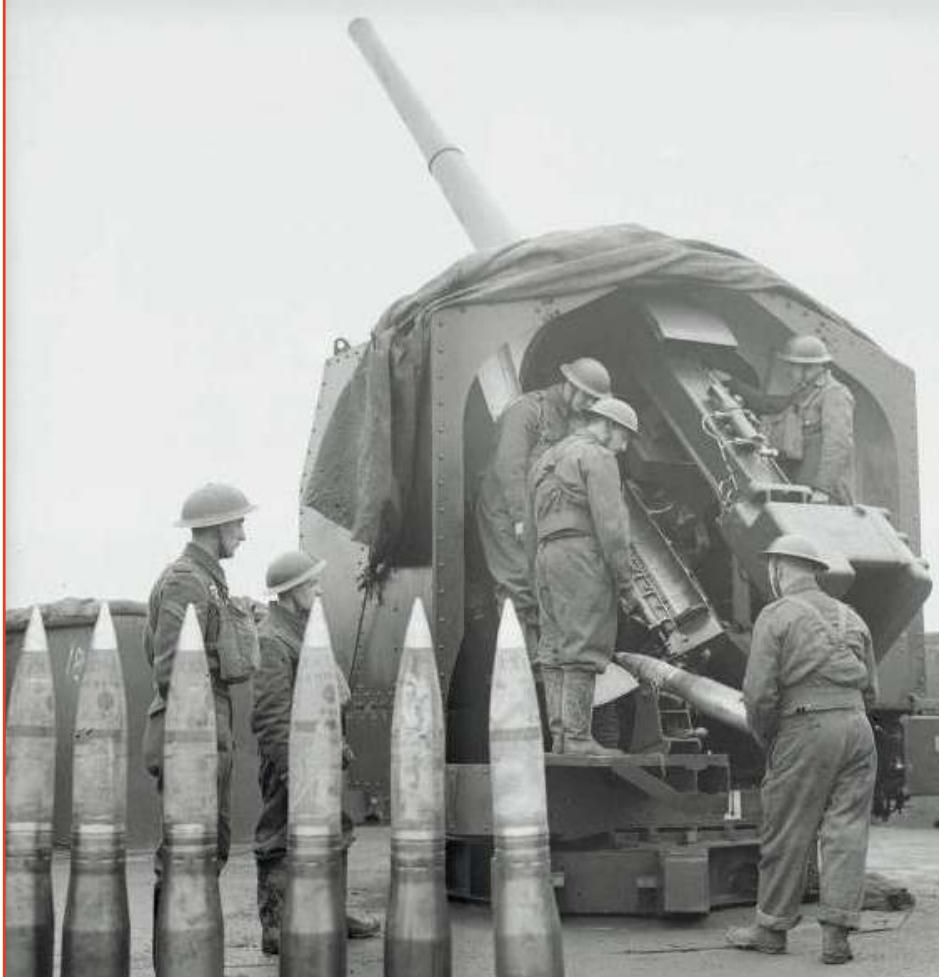
# AA GUNS

Anti-aircraft gunners had a difficult job. They hoped to bring down bombers that flew at hundreds of kilometres per hour and had the ability to alter course and elevation. A high-flying target meant a gunner had to aim three kilometres ahead and give the fuse 30 seconds of travel time.

It was an almost impossible shot. At the start of the Blitz, around 30,000 anti-aircraft shells were fired for every bomber downed. Nevertheless, accuracy did improve as gunners gained experience. By 1941 that figure had dropped to 4,000. Anti-aircraft emplacements were located around cities, airfields and the south coast, heavy 'ack-ack' guns derived from models already used by the Navy. One old battleship gun turret was carried to the top of Primrose Hill, overlooking London Zoo, to help protect the capital.

They typically lobbed 3.7-inch (nine centimetres) shells into the sky, although there were also models capable of firing 4.5-inch (11 centimetres) and three-inch (seven-centimetre) shells. Smaller 40mm Bofors Mark III guns could not fire as high but were useful against lower-flying aircraft. They were fitted to the chassis of a lorry to make a mobile emplacement and a mechanical analogue computer could be used to calculate the deflection needed to shoot down a moving target.

**"AT THE START OF THE BLITZ, 30,000 SHELLS WERE FIRED FOR EVERY BOMBER DOWNED"**



## ANATOMY OF A WWII AA GUN



# AIR RAID SHELTERS

While German bombs threatened widespread death and destruction across major British cities, ordinary life was suspended, and back gardens were converted into life-saving shelters

**T**he newspaper notice to residents of Weymouth and Melcombe Regis that was published on 21 August 1940, read in part, "The corporation will have available within the next few days a number of Anderson Air Raid Shelters and applications are invited therefore from householders resident within the Borough."

The dark days of the Blitz loomed, and residents of Great Britain were advised by their government to prepare appropriate shelters in advance of the destruction sure to be wrought by the Luftwaffe. Preparations had actually begun well before the outbreak of WWII in September 1939. A year earlier, then-Prime Minister Neville Chamberlain had placed Lord Privy Seal Sir John Anderson in charge of Air Raid Precautions, and the prominent civilian shelter that soon emerged was named for him.

The Anderson shelter, designed in 1938 by William Paterson and Oscar Carl Kerrison in answer to a directive from the Home Office, was a marvel of ingenuity. The shelter was 1.8 metres high, 1.4 metres wide and two metres long. Only those families who owned gardens could deploy them as they were intended to be buried about one metre deep in the ground. Constructed of six curved corrugated steel panels and five flat steel panels bolted together, the Anderson shelter could accommodate up to six people in a tight configuration of beds, cupboard, small bookcase and a single table. There was no toilet, unless a bucket was brought inside and stashed in a corner. The curved panels formed the roof of the structure and provided remarkable protection against bomb fragments and splinters, concussion and other ill effects of a blast. The homeowner was responsible for shelter installation, and for maximum benefit the roof was covered with heaps of dirt. Owners often planted vegetables or flowers on top, utilising all available space for cultivation if not also to add a bit of whimsy.

Before the war, the British Government provided 1.5 million shelters to the population, and for those households earning less than £250 per year there was no charge. The annual earnings threshold increased £50 for every child in the home under the age of 14 in excess of two. By the end of the war, another 2.1 million Anderson shelters

had been distributed, and after hostilities ended some of them found new roles as garden sheds or outbuildings. While the Anderson shelter was available for those whose properties could accommodate them, other civilians who had no garden took advantage of the Morrison shelter, an indoor apparatus that resembled a cage and was named after Minister of Home Security Herbert Morrison. The Morrison shelter was provided free to households earning under £400 a year, and again the owner was responsible for assembling the 359 individual parts. 250,000 Morrison shelters were distributed by late 1941, with an additional 100,000 issued by 1943.

Many Londoners took refuge in the capital city's Underground stations, although the government at first frowned upon the practice due to safety concerns. The Underground was deep below the surface, offering a great sense of security, as well as companionship and toilet facilities. Eventually, London Underground stations were fitted with bunks for up to 22,000 citizens.

Those who were unfortunate enough to be caught in a street or open area as air raids commenced were often herded into a street communal shelter. Construction of these public safe spaces began in March 1940. Hurriedly built, they were intended to hold 50 people but were quite unpopular due to problems with quality that resulted in well-known failures to protect those within.

An estimated 170,000 Londoners took advantage of the Underground facilities during the Blitz, and a 1940 survey of the city's inhabitants indicated that only 27 per cent utilised Anderson shelters, nine per cent public shelters, and four per cent the Underground tunnels. Amazingly, about 60 per cent chose to sleep in their own homes or were working during the near nightly German air raids.

Throughout the ordeal of the Blitz, 1.4 million Air Raid Precautions wardens and other personnel (all volunteers) worked to distribute gas masks, direct individuals to safety, snuff out small fires started by incendiary bombs, enforce strict blackout regulations and assist with rescue and recovery efforts. Estimated civilian casualties inflicted by the German bombing from September 1940 to May 1941 included nearly 50,000 killed and up to 139,000 injured.

A young lady emerges from an Anderson Shelter after an air raid and a heavy night of bombing, circa 1940





**"THE DARK DAYS OF THE BLITZ  
LOOMED, AND RESIDENTS OF  
GREAT BRITAIN WERE ADVISED BY  
THEIR GOVERNMENT TO PREPARE  
APPROPRIATE SHELTERS"**



Image source: Alamy/ Images

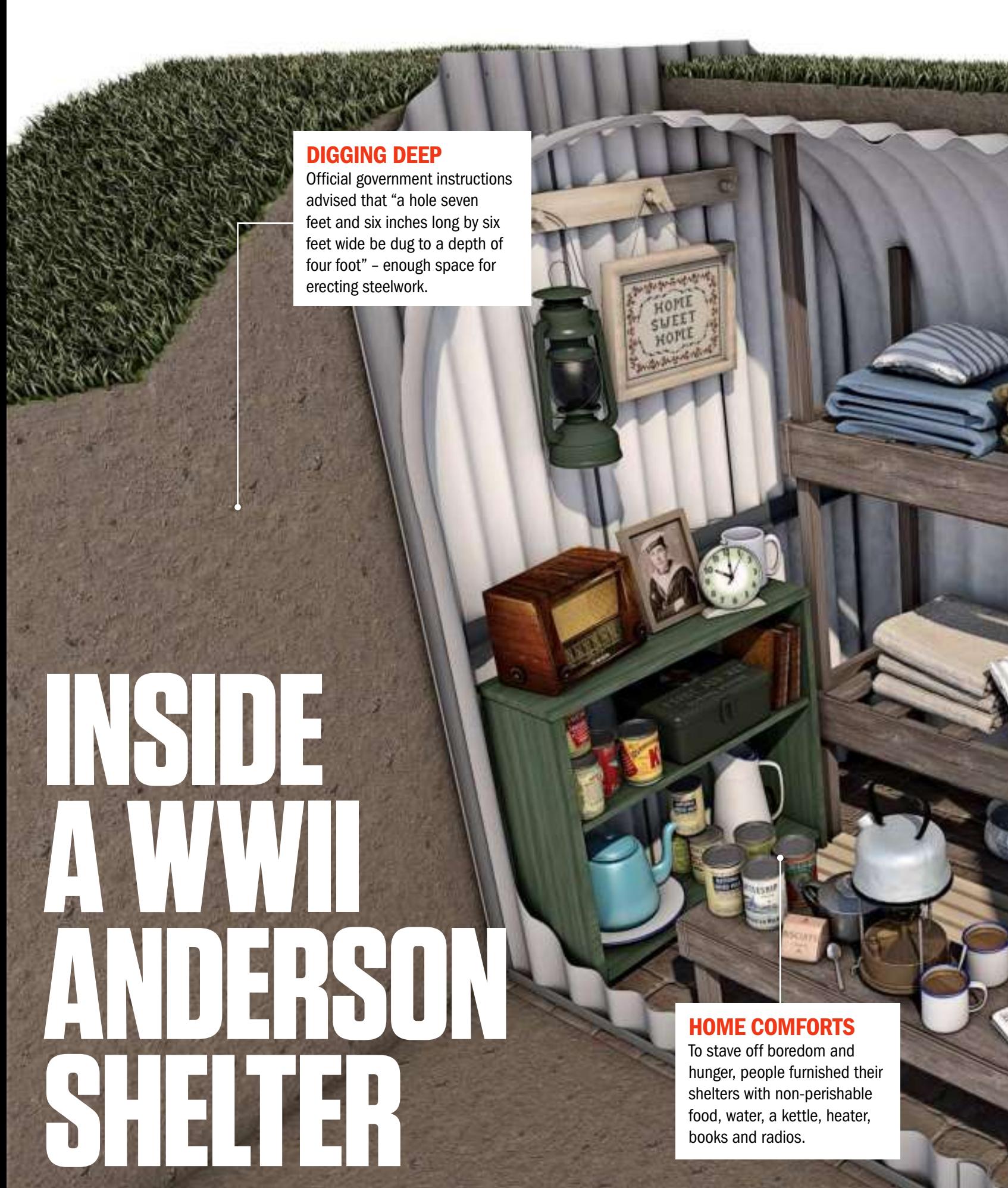
# INSIDE A WWII ANDERSON SHELTER

## DIGGING DEEP

Official government instructions advised that "a hole seven feet and six inches long by six feet wide be dug to a depth of four foot" – enough space for erecting steelwork.

## HOME COMFORTS

To stave off boredom and hunger, people furnished their shelters with non-perishable food, water, a kettle, heater, books and radios.





# AN ENDLESS INFERNO

ASSURING THE PEOPLE OF GERMANY THAT BRITAIN COULDN'T HOLD OUT INDEFINITELY, THE NAZI HIERARCHY CONTINUED TO SEND PLANES ACROSS THE CHANNEL. BUT THEY HAD NOT RECKONED ON THE WILL OF THE BRITISH PEOPLE TO RESIST

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This Midlands city suffered such a horrific bombing raid that its name became synonymous with total destruction

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Inside the medium bomber that terrorised the people and cities of Britain

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In the early days of the Blitz the Luftwaffe's pilots could attack night with little fear of reprisal. The RAF's nocturnal aces soon changed the odds

## 72 THE SECOND GREAT FIRE OF LONDON

As 1941 loomed Britain's capital was subjected to a catastrophic raid

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Meet some of the children who had to flee their homes and loved ones to avoid Hitler's wrath

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The night of 10–11 May 1941 would prove to be the worst of the entire Blitz

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If Germany couldn't strike at the heart of Britain's war effort then she would annihilate the nation's tea rooms instead

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How governmental errors condemned 173 people to death

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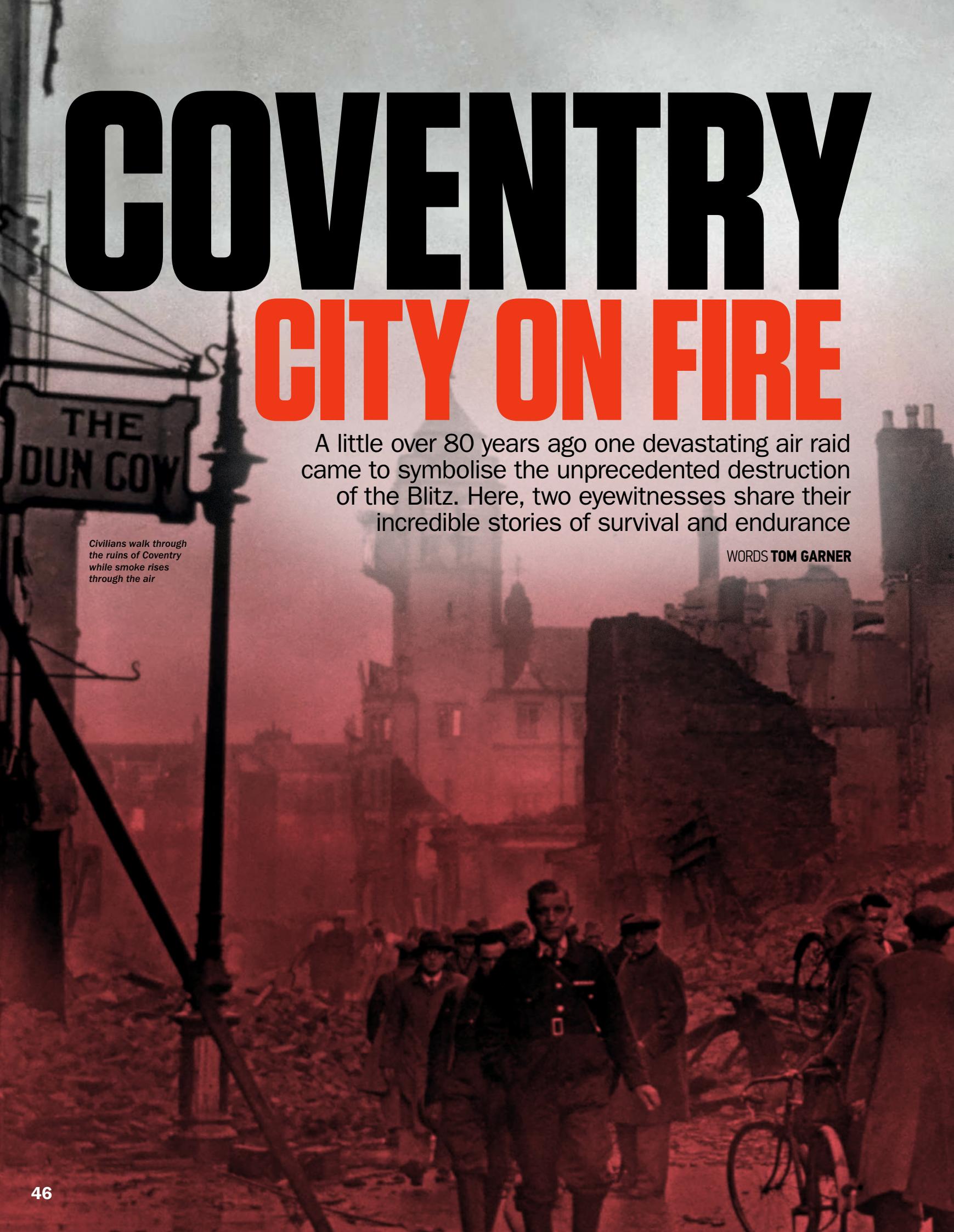
# COVENTRY

# CITY ON FIRE

A little over 80 years ago one devastating air raid came to symbolise the unprecedented destruction of the Blitz. Here, two eyewitnesses share their incredible stories of survival and endurance

WORDS **TOM GARNER**

*Civilians walk through the ruins of Coventry while smoke rises through the air*



**O**n a clear night during 14–15 November 1940, almost 500 Luftwaffe aircraft conducted an unprecedented bombing raid against the English city of Coventry. Codenamed 'Moonlight Sonata', the raid lasted for 11 hours, with the aim of destroying the city's substantial war production industries. Around 500 tons of high explosives, 30,000 incendiary bombs and 50 landmines were dropped in the single most concentrated attack on a British city during WWII.

Approximately 568 people were killed and over 1,000 injured, but Coventry's biggest loss was material. More than 43,000 homes, which was just over 50 per cent of the city's housing stock, were destroyed or damaged, while the smell and heat of the inferno reached the cockpits of the German bombers. Hundreds of shops and public buildings were also destroyed including – most notoriously – the 14th-century St Michael's Cathedral. King George VI is said to have wept when he visited the following day, while the Germans coined a new word – 'coventrieren' – to describe utter destruction.

Coventry came to symbolise a new kind of total war where apocalyptic destruction rained from the sky. However, the city recovered and its rebuilt cathedral is internationally recognised as a centre of peace. Coventry is also twinned with Kiel and Dresden – two German cities that also suffered almost complete obliteration during the conflict.

This spirit of reconciliation continues to endure with the Blitz's remaining survivors. Two of them, Mary Lock and Dorothy Day, still remember what it was like to live through Coventry's darkest hour. Both describe a night of terror, lives that were irrevocably changed and recovery in the face of adversity.

**"500 TONS OF HIGH EXPLOSIVES, 30,000 INCENDIARY BOMBS AND 50 LANDMINES WERE DROPPED IN THE SINGLE MOST CONCENTRATED ATTACK ON A BRITISH CITY DURING WWII"**



# “IT WAS TERRIFYING”

Mary Lock's family home was destroyed by a landmine – an event that prompted her to join the Civil Defence Service

**B**orn in February 1923 as Mary Barry, Lock grew up in the northwest Coventry suburb of Coundon. Although the city was notable for its industrial areas, she remembers the ancient character of the city centre. “It was full of medieval buildings. There was the cathedral, which was magnificent on the inside, and next door was Priory Row, St Mary's Guildhall and other buildings. They all had their own particular, distinctive presence because they weren't all built at the same time.” Lock lived in a house on Three Spires Avenue, Coundon, with her mother Ada, father Roland and two younger sisters. She was still at school when war was declared on 3 September 1939. “The main feeling I remember was fright. My parents were very distressed and frightened as to what was going to happen, how we had to be prepared for being bombed and how our lives would change.”

## Early raids

Roland, who was an engineer at the Daimler car factory in Coventry, applied his practical skills to defending his house and family. “He decided to board up the windows of our house and dug up the lawn in the back garden to put in an Anderson shelter. It's a good job he did because otherwise I wouldn't be here today.”

Lock left school in 1940 and found work as a cashier for Barclays Bank in the neighbouring

town of Bedworth. She initially commuted to work on a tram but early bombing raids destroyed or damaged the lines, so she instead took the train from Coundon Road Station. At the same time her home area was beginning to come under attack. “Before November 1940, a landmine landed near a cinema in Crampers Field off Moseley Avenue. Polish airmen were being housed nearby, but when the landmine was dropped they thought it was an airman that was coming down. They rushed out of the cinema to help but the mine went off and they lost their lives.”

The Luftwaffe had been conducting air raids against Coventry since August 1940 and Lock was shaken. “Bombing was something that hit us hard because we had no knowledge of it and it was very scary. We all had to have gas masks with us and we'd also been issued with a number, which for our family was 'QDPU39/3'. Each household had a number and you were advised to wear a bracelet with the number on it so that if you were killed they could recognise the body. I know that I was quite frightened and so were our parents for our safety.”

## “The house fell down”

14 November 1940 started ordinarily enough for Lock, but events quickly took a turn for the worse in the evening. “On that day I came home from work and did perfectly normal things. However, the sirens



Mary Lock  
pictured on her  
90th birthday

Image: Mary Lock

then went off at about 9.00 p.m. and we got behind chairs in the front room. At about 9.30-9.45 p.m. something then floated down from the sky. It was about six feet long and looked like a person in the dark. Our father went outside to see what was going on. Three Spires Avenue was tree-lined and he saw something lying in the road with a sheet draped in the trees. He then came back, reported it to us and sat down.”

The object turned out to be a high-explosive landmine and when some local people went to investigate they walked into a catastrophe. “We're not entirely sure whether the landmine had a delayed action when it fell from the sky or whether it was touched by people trying to move it but it exploded around six houses. All of the blast came our way and the house fell down on us. There's no doubt that my father saved our lives because we were the only house with boarded-up windows at the front. If we hadn't had those shutters the broken glass from the blast would probably have killed or badly hurt us.”

All of Lock's family survived the blast but their neighbours were not so lucky. “A young brother and



Left: Mary Lock  
(née Barry)  
pictured in her Fire  
Guards uniform  
during WWII



Women walk past houses  
wrecked by German bombing  
on the outskirts of Coventry

© Getty



*The devastation of Coventry  
Cathedral pictured the morning  
after its destruction by incendiary  
bombs, 15 November 1940*

sister had been killed in the house nearest the landmine. Meanwhile, next door to them was a lady sheltering under the stairs but her husband was killed when he went to get her a drink. The man who lived in the next house to us was killed. However, his wife and son were OK, as well as the people on the other side of their house. There was also an elderly lady in the other house next door who died, although the younger people at the back survived. All told there were ten people killed around us, including the men who investigated the landmine."

After the explosion, the Barry family quickly went into the Anderson shelter in their back garden. "All of this stuff had fallen on top of us but we walked out of the house alive. We were all going, 'What's happened to us?' because there wasn't a door to be seen when we walked out. We went into the shelter and it was a bright, cold night with all these incendiary bombs falling that lit up the sky. It was almost like daylight."

Although the shelter was full of water, Lock's family took refuge in there for hours while an apocalypse descended on them. "We spent the rest of that night in that shelter while the incendiary bombs rained down like stars or confetti. There was also the roar of the planes coming over, and of course these incendiaries set fire to all the houses around us. I remember hating being encased in this shelter. We were terrified and this went on until about seven o'clock the next morning."

## "Devastation"

Once the Luftwaffe aircraft departed and the 'All Clear' siren sounded on the morning of 15



*Mary Lock pictured with the other members of her local Fire Guards unit*

Image: Mary Lock

November, the Barrys emerged to see a destroyed neighbourhood. "It was just devastation all around us. I stood in the street of Three Spires Avenue and all we had were the clothes we wore – no coats or anything like that. The house was a wreck, you couldn't live in it and six houses by us also had to be vacated. Can you imagine what my parents must have been feeling? They had three daughters but what was their life going to be after that?"

Now homeless, Lock's maternal aunt found the family standing in the street while she was serving as a volunteer ambulance driver nearby. The aunt offered to house the Barrys at her home in the nearby suburban village of Keresley, although the

family were initially evacuated to Tredington near Stratford-upon-Avon in south Warwickshire. Lock remained in Keresley for years. "There was so much devastation in Coventry and there were many other people looking for accommodation. There were no properties to buy and it was another two or three years before my father managed to buy a house for us to live in."

The destruction of the family home and the stressful upheaval was a great strain on Lock's mother. "She did all the meals for my aunt, her husband and us in Keresley, but I think the trauma and upset of being in somebody else's house took a toll on her. She died when she was only 45 of



*Winston Churchill pictured walking through the ruins of Coventry Cathedral, 28 September 1941*

George VI walks through the streets of Coventry with Home Secretary Herbert Morrison, 16 November 1940. The King's visit was unannounced and many citizens were surprised to see him



© Getty Images

bronchial pneumonia and that was a big shock to us all. I was 20 while my younger sisters were 18 and 15. She had indirectly died because of the Blitz, so her death was another trauma that was brought on by the war."

Lock was now the eldest female in the family and took on many of her mother's responsibilities. "We had to carry on, including my dad, who kept working at Daimler. When we got our own house I became 'head cook and bottle washer' and I had moved from the Bedworth bank to the Rugby and then Coventry branches. It wasn't so far for work so I now had the most time to keep the house going and for us to have some sort of life."

### Fire Guards

By 1943, Lock, her father and one of her sisters had all joined the Civil Defence Service to assist the war effort. Lock herself joined the Fire Guards, which had initially been formed as the Fire Watchers Order in 1940. Reformed as the Fire Guards in 1941, the service was responsible for monitoring the fall of incendiary bombs and passing on news of any fires to the regular National Fire Service. They could also

put out fallen incendiaries by dousing them with buckets of sand and water or by smothering them.

The only woman in her local division and the youngest member, Lock volunteered at a time when air raids against Coventry were gradually decreasing. "All of the men in the unit were old enough to be my father, although when I joined the Fire Guards we hoped we could be of some use if there were more bombings."

Despite her age, Lock was selected to become the only female Fire Guards instructor in the city. "I don't know why I was chosen because we had to pass some kind of exercise to do the job. I must have been encouraged as the right sort of person to talk to people at meetings. We used to link up with the National Fire Service and go around various organisations to talk about stirrup pumps for the water, security and how to be prepared for any bombs dropping or fires that might occur."

Lock joined the Fire Guards as a response to her own experiences. "I think I joined because I'd lost my mother and our house because of the Blitz. My aunt's volunteering with the ambulances was also a reason for joining the Civil Defence. It

was something that I could do voluntarily to help people who were less fortunate than me. I wanted to feel that I could and would do it." Lock remained with the Fire Guards until they were disbanded at the end of WWII, and she is now believed to be the last surviving wartime member of the Civil Defence Association from Coventry. Despite her traumatic experiences, Lock reflects that mutual understanding between former enemies is key for reconciliation. "Whatever happens in life, whether it be arguments or discussions, it is never one sided... It's incredible to think that it's 80 years since [the Blitz] and how life has changed, but we've all got to remember that message of forgiveness."

Mary Lock is a member of the Civil Defence Association. The CDA is the only UK organisation that represents past and serving volunteers engaged in Civil Defence activities. For more information visit:

[www.civildefenceassociation.uk](http://www.civildefenceassociation.uk)



# A LOST MEDIEVAL CITY

Coventry's historic buildings were not just destroyed by the Blitz but also by interwar and post-war redevelopers

Unlike many other British industrial cities, Coventry had an ancient core with a distinguished past. It had been the fourth-wealthiest English city during the Late Middle Ages and hosted several parliaments in the 15th century. Its regional importance was reflected in its architecture, and many of its Medieval and Tudor buildings survived into the 20th century. Before WWII, Coventry's city centre was like a Midlands version of York, with many half-timbered houses, narrow streets and its large 14th-century cathedral. However, contrary to popular perception, the destruction of Coventry's heritage began before the war. During the 18th–19th centuries its ancient city gates were dismantled, while a preserved Medieval street called Butcher Row was demolished by the local Corporation (Council) in 1936.

Nevertheless, the war did inflict grievous damage on Coventry's remaining medieval and Tudor architecture. The destruction of the cathedral was the most famous example, but other ruined buildings included a grand 15th-century house called Old Palace Yard and a street called Priory Row. Even after the war, redevelopers tore down historic buildings to make way for a ring road, so the loss of historic Coventry was not entirely down to the Luftwaffe.

However, remarkable examples of Coventry's distant past still survive, such as Holy Trinity Church, St Mary's Guildhall, Ford's Hospital, Spon Street and Christ Church Spire. Even the destroyed St Michael's Cathedral's intact spire remains the third tallest in England at 90 metres high.



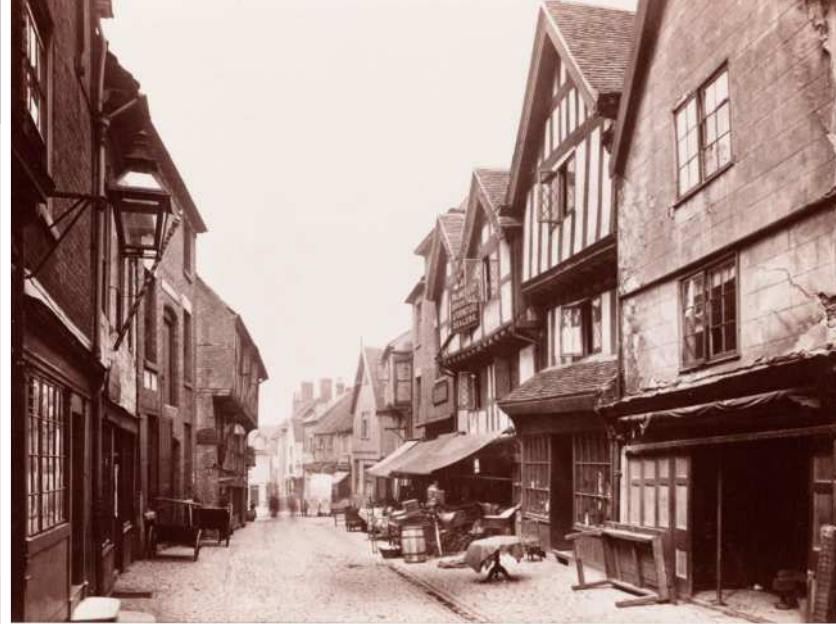
Above: A view down a cobbled lane of St Michael's Cathedral in 1866



Left: Ford's Hospital was founded in 1509 as an almshouse but was severely damaged in November 1940. It was one of the few damaged timber buildings to be restored after the war

Right: The interior of St Michael's Cathedral before it was destroyed. Built during the 14th century, St Michael's was the largest parish church in England before it was elevated to cathedral status in 1918





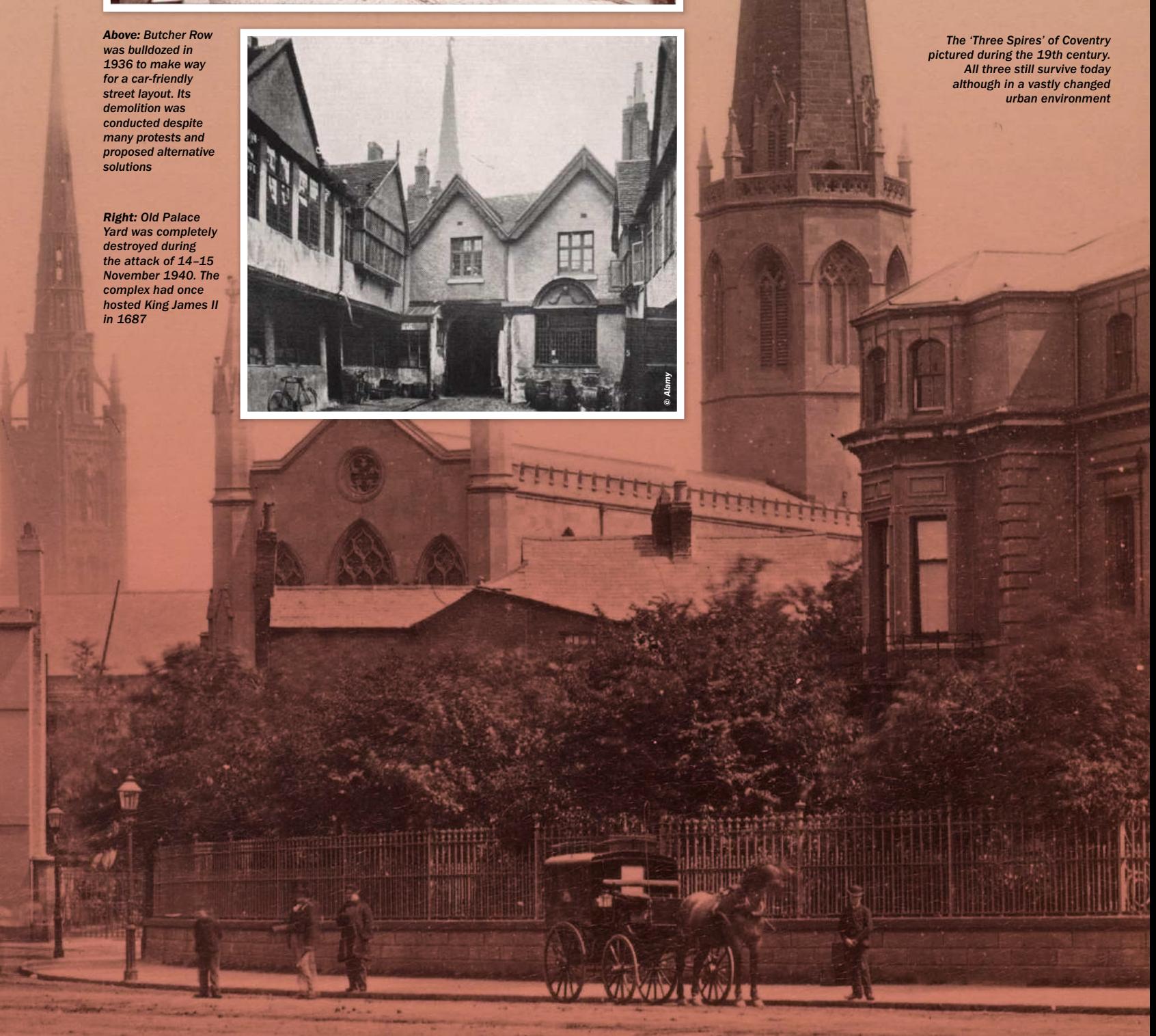
**Above:** Butcher Row was bulldozed in 1936 to make way for a car-friendly street layout. Its demolition was conducted despite many protests and proposed alternative solutions

**Right:** Old Palace Yard was completely destroyed during the attack of 14–15 November 1940. The complex had once hosted King James II in 1687



**“REDEVELOPERS TORE DOWN HISTORIC BUILDINGS TO MAKE WAY FOR A RING ROAD, SO THE LOSS OF HISTORIC COVENTRY WAS NOT ENTIRELY DOWN TO THE LUFTWAFFE”**

The 'Three Spires' of Coventry pictured during the 19th century. All three still survive today although in a vastly changed urban environment





Images: Dorothy Day

# A CHILD'S PERSPECTIVE

Dorothy Day was only six years old in 1940 and endured not just the Blitz but subsequent bombings across Britain as her parents tried to evacuate her to safety

**D**ay was born as Dorothy Smout in 1934 as the youngest child of her mother (also called Dorothy) and father Samuel. With her elder sister, Joan, the Smout family lived in Mulliner Street, which was located between the northern Coventry areas of Foleshill and Stoke. The street was surrounded by industrial works that were converted to war production from 1939. This included a large factory that was run by the Admiralty and another that made ammunition.

Despite being only five years old when war broke out, Day still has memories of that day. "I do remember it because I was in hospital having my tonsils out. I heard about it by word of mouth rather than radio because my parents came to visit me and I overheard them talking. It didn't mean a lot to me of course because I was so young."

## "The war didn't worry us"

Day's father Sam was a carpenter by trade and worked as a patternmaker for the Armstrong Whitworth aircraft company. Armstrong Whitworth's factory was based in the village of Baginton, south of Coventry, and made military aircraft such as the A.W.38 Whitley medium bomber. Patternmaking for this work was a skilled job and as such Sam was exempt from military service. "They would first make the aircraft in patterned wood because that's what they were largely made of in those days. He wasn't called up because he was in a reserved

occupation, as were all the men in my family. My uncle Andrew was a coppersmith and he worked for a company that made parts for gas meters but it was converted to make bullets and other ammunition. Similarly, my maternal grandfather worked in the Morris car factory as a turner and his company was also converted to the war effort."

Although she was now living in a city that had become a centre for war production, Day was largely shielded from the conflict. "I started nursery at Red Lane School and not much actually changed. At that age I was still enjoying life and we were just a little family with my parents and sister Joan, who was two years older than me. The war didn't worry us at all at that point."

This period of relative normality did not last long as the Luftwaffe began to bomb Coventry. Sam began an exhausting daily routine when he joined the city's special constables. "You had to join something if you were in a reserved occupation, so he joined the police. He had to work in the daytime at the factory and then go on duty at night. He would patrol the streets, often with a friend from Armstrong Whitworth called Arthur Pyle, to make sure that people were safe and that there were no robberies. When places were bombed they would help get people out of destroyed buildings. It was a horrible job really."

The reality of the war was now beginning to impact on Day as she was sheltered from raids. "We initially had a shelter under the stairs by the gas meter where Joan and I used to sleep when the sirens sounded. My parents put blankets on the floor but also papered the walls with comics, which we would look at with a torch. A little mouse eventually made a hole in the comics and frightened us to death!"

Under the stairs soon proved to be a dangerous place, and an Anderson shelter was constructed in the back garden. "It had a concrete floor with a long seat that we could lie on, but it was very damp. The ceiling was rounded and made from corrugated iron with an opening at one end where you could scramble out. All of the concrete area was beneath ground level but the top was also covered in soil."

*Left: Dorothy Day (née Smout) aged six years old in a souvenir photograph from 1940*



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## A "terrific fire"

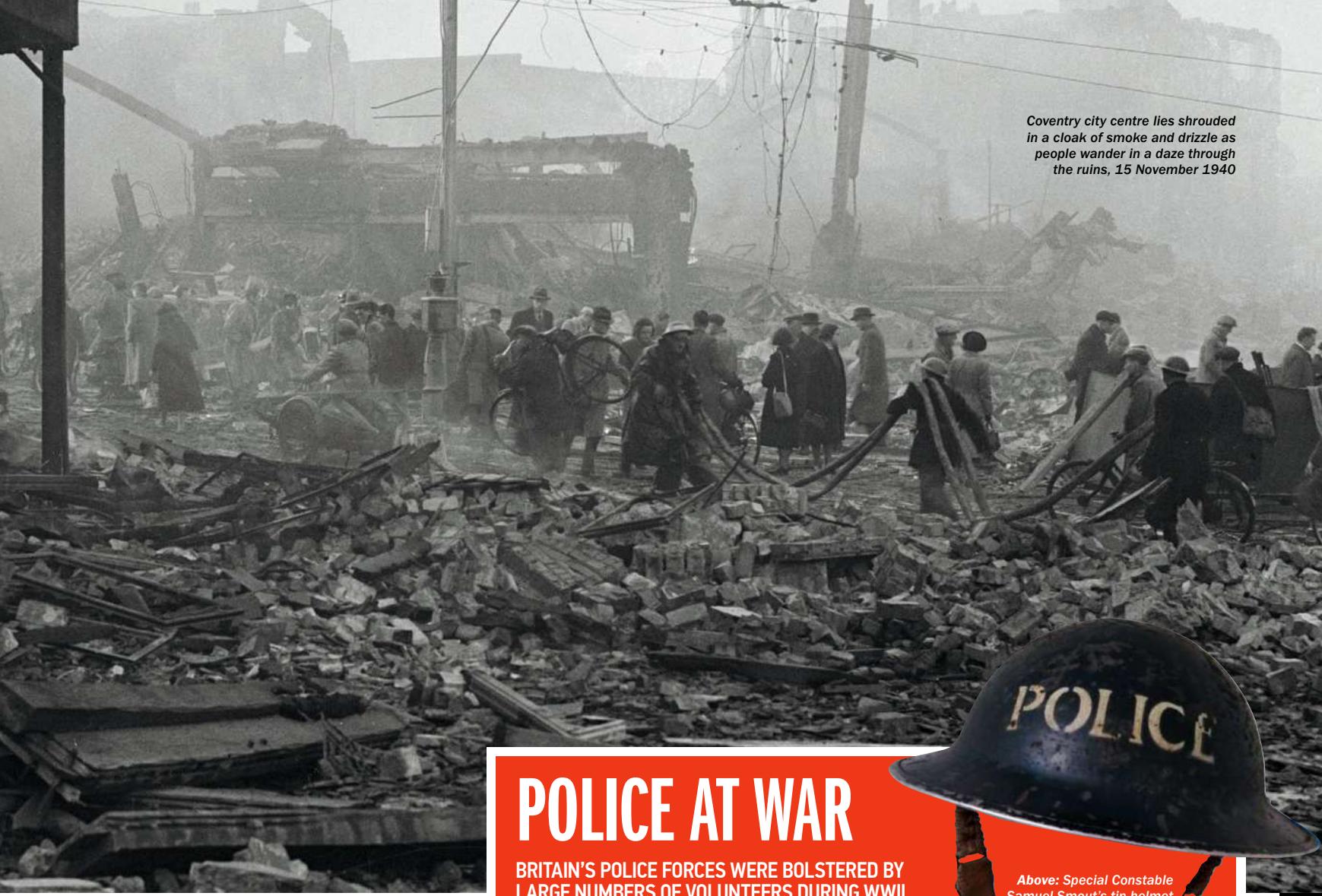
In the period before 14 November 1940, Day began to notice the city's increasing amount of air defences. "We didn't of course realise how bad the raid was going to be but we did see barrage balloons starting to appear around Coventry. There was one not very far from us on a big common. On the night of the actual Blitz you could see these balloons in the sky, which were supposed to stop the planes getting anywhere near the city or factories. There were also searchlights which were manned by the Home Guard that were switched on when the planes were coming."

On the night of the Blitz, Day and her family went into the shelter. "When the sirens sounded we had to put our coats on, grab a blanket, run out to the shelter, and down we went inside. We already had earplugs down there and we put those on to protect ourselves from the noise of the bombs and planes. I was with my mother and sister while my grandmother lived next door. In her shelter were my aunts Gwen and Else, so all of us women were with each other while the men in the family were out doing what they had to do."

As Day entered the shelter she saw the Blitz in full progress. "I remember seeing these searchlights and barrage balloons and even the outlines of planes when they were dropping the bombs. It was as though the Germans didn't care where they dropped them but instead hoped they would hit the target. The aircraft would get caught in the searchlights and there was a particular noise from German aeroplanes as you heard them getting nearer and nearer."

Images: Dorothy Day

Coventry city centre lies shrouded in a cloak of smoke and drizzle as people wander in a daze through the ruins, 15 November 1940



## POLICE AT WAR

BRITAIN'S POLICE FORCES WERE BOLSTERED BY LARGE NUMBERS OF VOLUNTEERS DURING WWII, ALTHOUGH THEY HAD AN UNENVIABLE TASK OF MAINTAINING LAW AND ORDER IN THE MOST EXTREME CIRCUMSTANCES

In 1939 many young policemen were armed forces reservists and police numbers sharply declined as its members left to fight. The gaps were filled by volunteers who were either too old to fight or working in reserved occupations. Approximately 130,000 were special constables who either became full-time regular officers or contributed on-duty hours when they could. These numbers expanded the police service by 50 per cent, although the part-time special constables were unpaid.

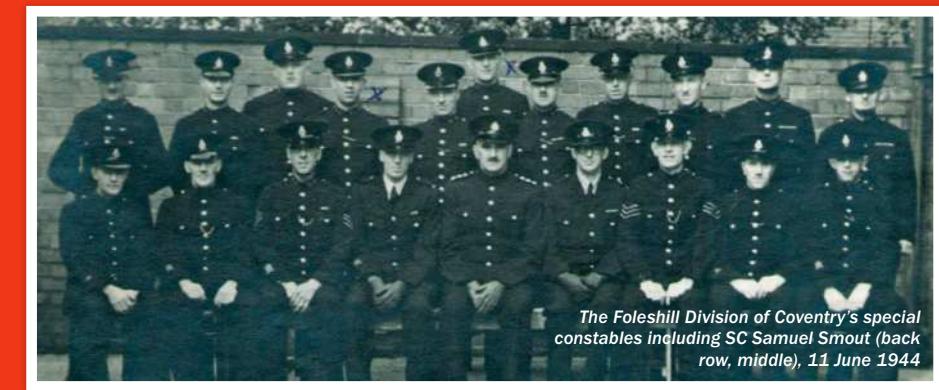
The police's duties increased from standard law enforcement to wartime priorities such as preventing widespread looting and fraud,



Above: Special Constable Samuel Smout's tin helmet

enforcing blackouts, assisting rescue services and pursuing military deserters. All police officers, including special constables, had the power to arrest, but the pressures of the war led to an increased sickness rate across British forces. The Metropolitan Police alone lost 345,600 days to sickness in 1945 compared to 181,300 in 1939.

Nevertheless, despite the wartime burdens the police became highly respected, particularly during the Blitz. One commentator noted during air raids, "The calm and authoritative way of the good-natured Bobby did more to dispel panic than any amount of official propaganda."



The Foleshill Division of Coventry's special constables including SC Samuel Smout (back row, middle), 11 June 1944

Images: Dorothy Day

In some ways, Day's youth insulated her from the full terror of that night, but what she witnessed remains fresh in her memory. "I must have been frightened. There was no light anywhere and if you wanted to go to the toilet while you were in the shelter you had to dash out. When I went to the toilet I looked up and all I could see in the distance was this glow, which was the terrific fire in the city centre. There were the planes in the sky but you were in darkness in the shelter. It was pretty scary."

Day and her family all survived that night and were fortunate that their house, as well as her grandmother's home, was not damaged. "Where we lived bombs had been dropped here, there and everywhere. Further up the street a house had been completely demolished and almost the end of the street had been destroyed. We were very lucky."

Meanwhile, Day's father had been through a dreadful night trying to rescue civilians. "I remember my dad coming home and telling my mum about where they'd had to drag people out of houses that had been flattened. Getting people out of rubble, whether they were alive or dead, was part of the police's job, and they also had to identify everybody. It wasn't just a case of dragging them out; the police had to know who they were and who was left. Everything had to be logged, so it was a lot of work. He must have been scared when he went out and rescued everybody else because he wouldn't know if we'd still be there when he [returned]."

Despite the carnage, Day's parents remained calm. "They never panicked in front of us, so they did a good job. They would try to make the Blitz almost like a game when they said we had to sleep

in the shelter rather than the house. But, of course, they didn't know how safe we all would be."

## Failed evacuations

Because of the extreme destruction, Day's parents understandably tried to evacuate their children away from danger. While her father remained working, the rest of the family moved to the small Warwickshire town of Kenilworth. "My grandparents had started to rent a little cottage there to escape the bombing. It was only a one-up-one-down building and you had to go through a garden to get to it but we stayed with them after the Blitz."

Day's father arranged for his family to live in a flat above a chemist's shop in the town square, but disaster struck again just one week after the Coventry Blitz on 21 November 1940. "The sirens went off one night in Kenilworth of all places. Next to our cottage was a church where there was a cellar for the boiler and storing coke. When the sirens went off we slept on top of this pile of coke but the Germans dropped a landmine on the flat we were due to move into the next day. It was destroyed, so we were very lucky."

26 people were killed in Kenilworth that night and the family moved from there to Barrow-in-Furness in Cumbria. "My dad came from there and we stayed with an auntie. Barrow was a big ship-building dockyard but it hadn't been bombed at that point. We started school there but then Barrow was bombed so we came back to Coventry again."

Image: Wiki / PD / Jules & Jenny



**Left:** Coventry Cathedral was re-consecrated in 1962 with a new building designed by Sir Basil Spence. The modernist structure is architecturally blended with the old St Michael's Cathedral

When Day returned to Coventry she saw the devastation that the Blitz had wrought. "The cathedral and city centre were just a big heap of rubble. We couldn't visit the inside of the cathedral because there was just the basic outline of the walls with masonry everywhere. There were places that still stood but there were other places that had disappeared with big holes in the ground."

Alarmed by the continual bombings, Day's parents decided to evacuate the children even further afield. "A distant relation had some relatives at Aberdare in Wales, so they said they would take us. We stayed with them but then again Aberdare was bombed in the middle of the town so we returned once more to Coventry. Wherever we went it was almost like fate was following us. However, because we were so young what happened to us more or less felt like an adventure."

## "I learned a lot"

The family gave up on evacuation, but they now had to live in a ruined city. Life continued, but it was tinged with tragedy. "Life had got to go on and you still had to go to school and do shopping etc. We continued to visit the centre, but it was largely just heaps of rubbish. We just got on with things, and I wasn't distressed because I was so young. It must have affected my parents very much."

"Next to the Hippodrome Theatre was a mass grave. There were other air raids afterwards but I can only remember the sirens and not knowing where the bombs were going to drop. I can't remember anything like the main night of the Blitz."

Coventry's citizens eventually became weary. "By the end of the war we were quite tired because of

the restrictions. The rationing was terrible because you lived on so little, but my mum worked wonders. For example, we had nothing to make a cake, and instead of butter she used liquid paraffin. It tasted alright but it was a sign she was desperate. However, we always had food because we grew vegetables and had some chickens, although we lost food coupons for keeping those. Nevertheless, their eggs were a great lifeline."

When Victory in Europe (VE) Day finally arrived on 8 May 1945, Mulliner Street celebrated with a big street party where neighbours contributed rationed food. In the post-war period, Coventry was rebuilt and prosperity returned.

"It recovered very well because there was a lot of industry and plenty of work so people were more affluent. The motor industry flourished and the new cathedral was beautiful, particularly on the inside. To walk into it from the ruins of the old cathedral is really lovely."

Day's early years were largely shaped by WWII, but her parents ensured that she wasn't traumatised. "I was very fortunate because they were fantastic. For example, when we were being evacuated my father would make us toys in his shed when he was on his own. It was things like that kept our childhood going."

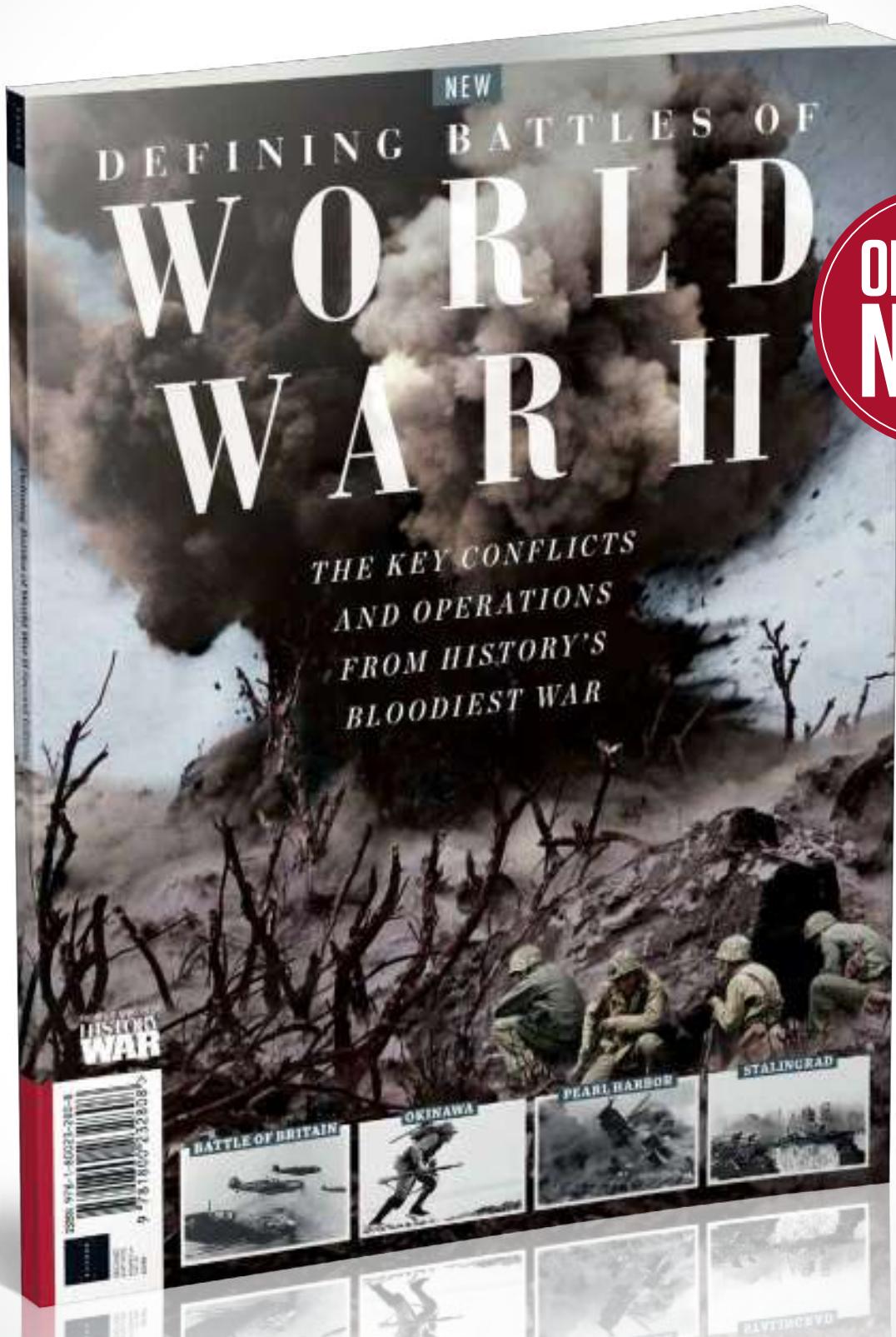
With the hindsight of 80 years, Day says that the Blitz, while terrible, was a personally formative experience. "I do feel that I learned a lot from the war. I have good and bad memories from that time, but mostly good. You survive these things if you're lucky and you learn from those experiences. Some people don't recover from things like that but most do and it's a part of life."

**Left:** Coventry Cathedral was re-consecrated in 1962 with a new building designed by Sir Basil Spence. The modernist structure is architecturally blended with the old St Michael's Cathedral



# EXPLORE THE CLASHES THAT DECIDED THE GREATEST WAR THE WORLD HAS EVER SEEN

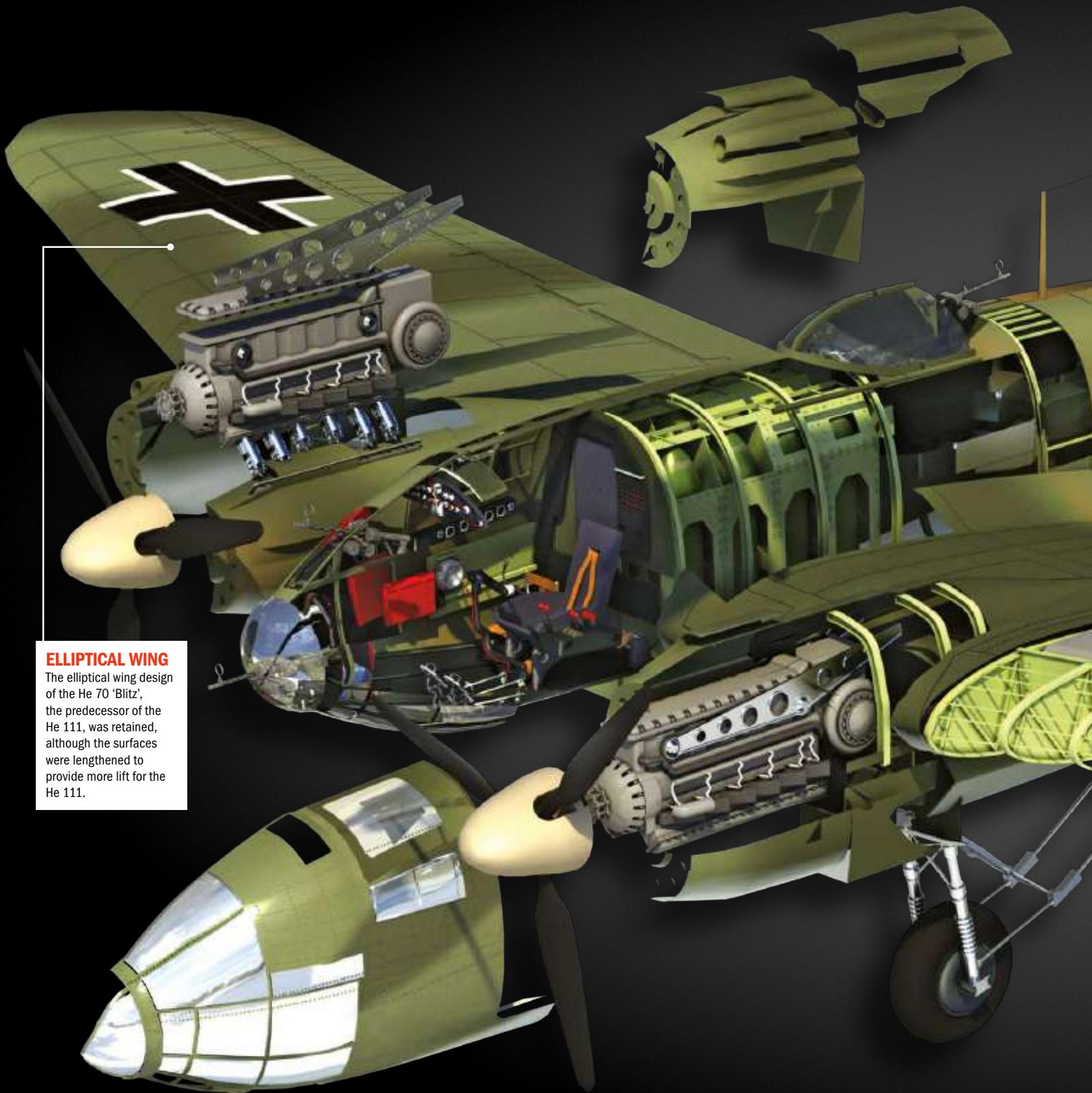
The cataclysm that was World War II may have been started by the genocidal desires of a mad man, but it was settled by blood and steel. From El Alamein to Stalingrad, these are the battles that shaped history's deadliest conflict



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#### HEINKEL

# HE 111

HEINKEL

WORDS MIKE HASKEW

The Luftwaffe's Heinkel He 111 medium bomber gained notoriety during the Battle of Britain & proved versatile in multiple roles

**AERODYNAMIC AND LIGHTWEIGHT**

The surfaces of the He 111 aircraft were designed for maximum aerodynamic efficiency, while its construction from aluminium and wood provided strength and reasonable weight.

**BOMBLLOAD**

The He 111 was capable of carrying multiple bombload configurations, including 2,000 kilograms (4,409 pounds) in the bomb bay and 3,600 kilograms (7,937 pounds) affixed to external hard points.

**WING EDGES**

The trailing edges of the He 111 wings were angled slightly forward, while the leading edges were swept back on a line even with the engine nacelles.

The terms of the Treaty of Versailles were explicit: in the wake of WWI, the German military was to have no air force capable of offensive action. However, during the 1930s, just as it did with the army, the Nazi regime developed a shadow air force, one that would wreak havoc across Europe by the end of the decade. The Germans established glider 'clubs' to train future Luftwaffe pilots and at the same time embarked on a programme that would ostensibly produce aircraft for civilian purposes but with an easy transition to military applications when war came.

The Heinkel He 111, perhaps the best-known German medium bomber of WWII, a machine that would gain infamy in the skies above Poland, France, the Low Countries and Britain, was such an aircraft. Originally slated for service as a passenger liner for the civilian airline Lufthansa, the He 111 was large, robust and built for rapid conversion to a bomber configuration.

The Reich Air Ministry promoted competition among aircraft manufacturers, and Heinkel emerged with a contract for a medium bomber based on its proven single-engine He 70 design, which had already set speed records and served as a fast passenger and mail delivery plane. Concurrently, two other medium bombers, the Dornier Do 17 and the Junkers Ju 88, were developed for the Luftwaffe.

Aircraft designer Ernst Heinkel recruited twin brothers Siegfried and Walter Günter to work in his factory at Rostock, and the two produced a twin-engine adaptation of the He 70, which later became distinctive with a glazed nose, elliptical wings and extended fuselage. The first He 111 prototype flew on 24 February 1935 as a civilian aircraft, and the design was affirmed. In January 1936, another prototype was recognised as the fastest passenger aircraft in the world, achieving a top speed of 402 kilometres per hour.

**HEINKEL HE 111**

**COMMISSIONED:** 1935

**ORIGIN:** GERMANY

**LENGTH:** 16.4M

**CREW:** 5

**RANGE:** 1,950KM

**ENGINE:** 2X 1,340HP JUNKERS

**JUMO 211 INVERTED V-12**

**PETROL**

**PRIMARY WEAPON:** 1X 2,000KG (4,409LB) BOMB EXTERNAL

**AND 1X 500KG (1,102LB)**

**BOMB INTERNAL; OR 8X 250KG (551LB) BOMBS INTERNAL**

**SECONDARY WEAPONS:** 1X

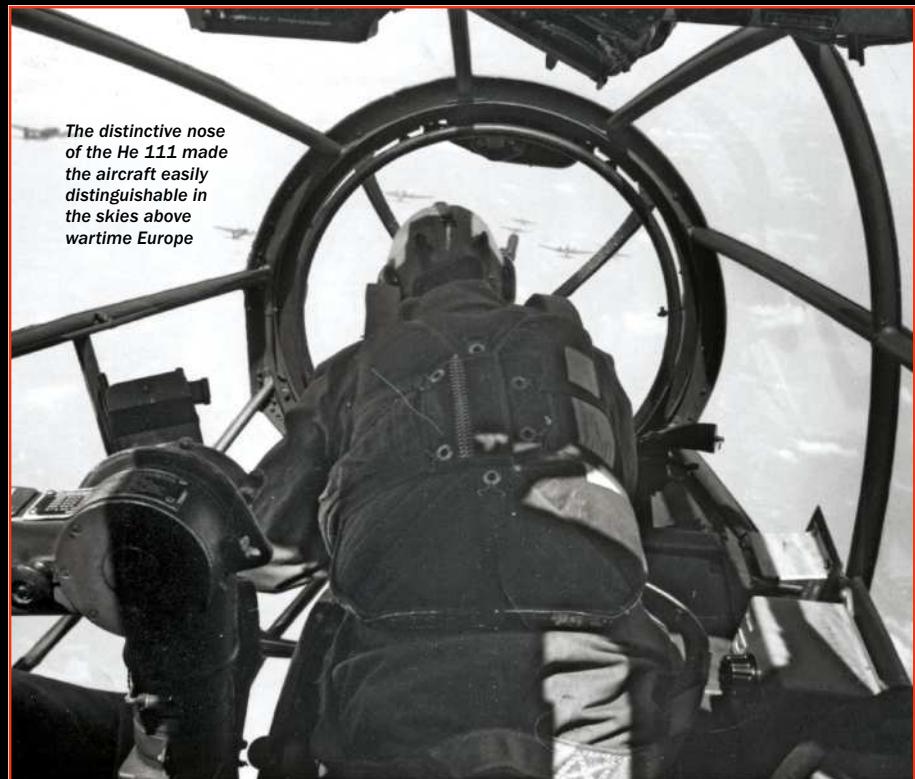
**20MM MG FF CANNON; 1X**

**13MM MG 131 MACHINE GUN;**

**7X 7.92MM MG 15 OR MG 81**

**MACHINE GUNS**





## COCKPIT

Early He 111s were built with stepped cockpits with windscreens for the pilot and co-pilot. This was abandoned in the P series for a stepless configuration. The pilot sat on the left with the bombardier/navigator on the right. The pedals for the rudder were placed on arms, and there was no floor below the pilot's feet. Sliding panels were installed to allow a quick exit forward rather than through the fuselage, and the glazed Plexiglas nose provided excellent visibility, although bright sunlight could cause glare. The control column was centrally positioned and could be swung to the right. Most of the instrumentation was installed in the ceiling above the pilot's head.



*In later variants of the He 111, a stepped cockpit was replaced with a stepless configuration, with the pilot seated on the left and the bombardier/navigator to his immediate right*

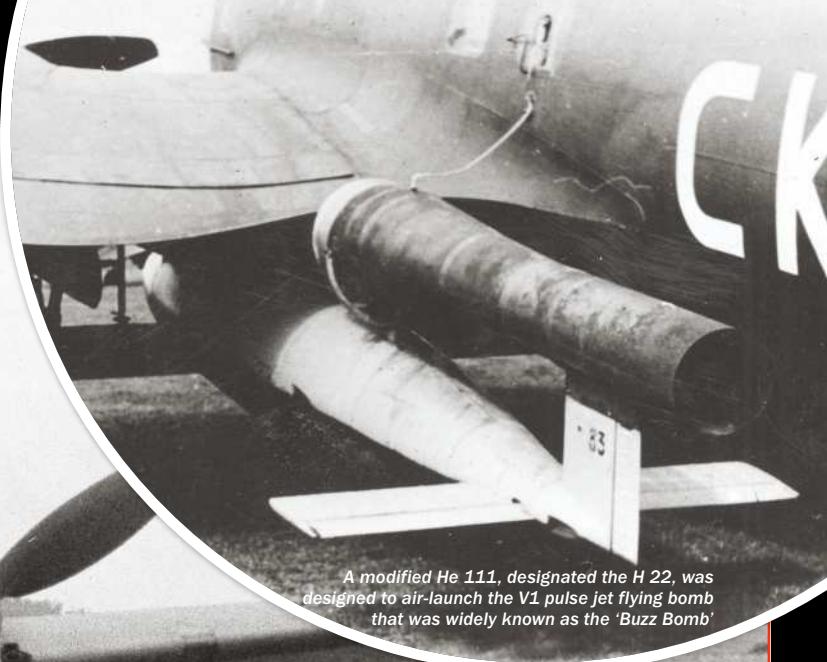
## ARMAMENT

The primary weapons system of the He 111 was its bombload, which included several options based on the nature of its mission. The aircraft was capable of carrying a single 2,000-kilogram (4,409-pound) bomb externally, along with a single 500-kilogram (1,102-pound) bomb internally, or eight 250-kilogram (551-pound) bombs internally transported. Sub-variants of the He 111H were modified to carry aerial torpedoes for anti-shipping missions or smaller 50-kilogram (110-pound) bombs for antipersonnel missions. A 20mm MG FF cannon, 13mm MG 131 machine gun and seven 7.92mm MG 15 or MG 81 machine guns were mounted in various combinations for defence.



*Ground crewmen handle a variety of ordnance as they arm a He 111 for an upcoming mission. The aircraft was capable of handling high-explosive, incendiary and other types of ordnance*

**"A 20MM MG FF CANNON, 13MM MG 131 MACHINE GUN AND SEVEN 7.92MM MG15 OR MG 81 MACHINE GUNS WERE MOUNTED IN VARIOUS COMBINATIONS FOR DEFENCE"**



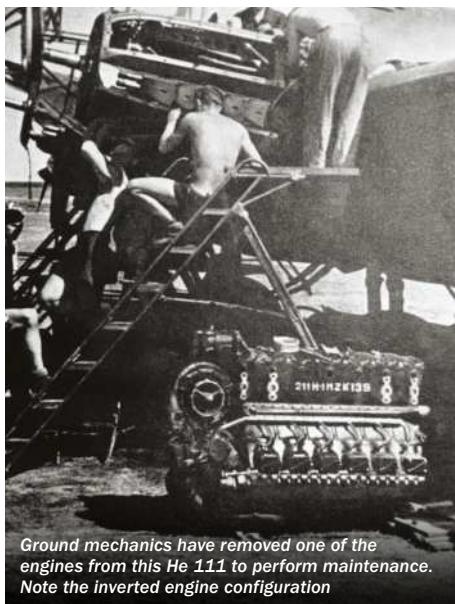
*A modified He 111, designated the H 22, was designed to air-launch the V1 pulse jet flying bomb that was widely known as the 'Buzz Bomb'*

## ENGINE

The He 111 was powered by several aircraft engines, including the BMW VI V-12 inline, the Daimler Benz DB 600 and DB 601 inverted V-12 power plants, and the Junkers Jumo 211 series. The He 111H was the most widely produced variant of the medium bomber and mounted a pair of Jumo 211 inverted V-12 gasoline engines, generating from 1,300 to 1,340 horsepower and producing a maximum speed of 440 kilometres per hour. While its competitor, the DB 600, mainly powered fighters, the Jumo 211 was primarily a bomber engine utilising a direct fuel injection system and was improved throughout WWII.



*The H variant, the most widely produced He 111 model, was powered by a pair of Jumo 211 inverted V-12 gasoline engines*



*Ground mechanics have removed one of the engines from this He 111 to perform maintenance. Note the inverted engine configuration*

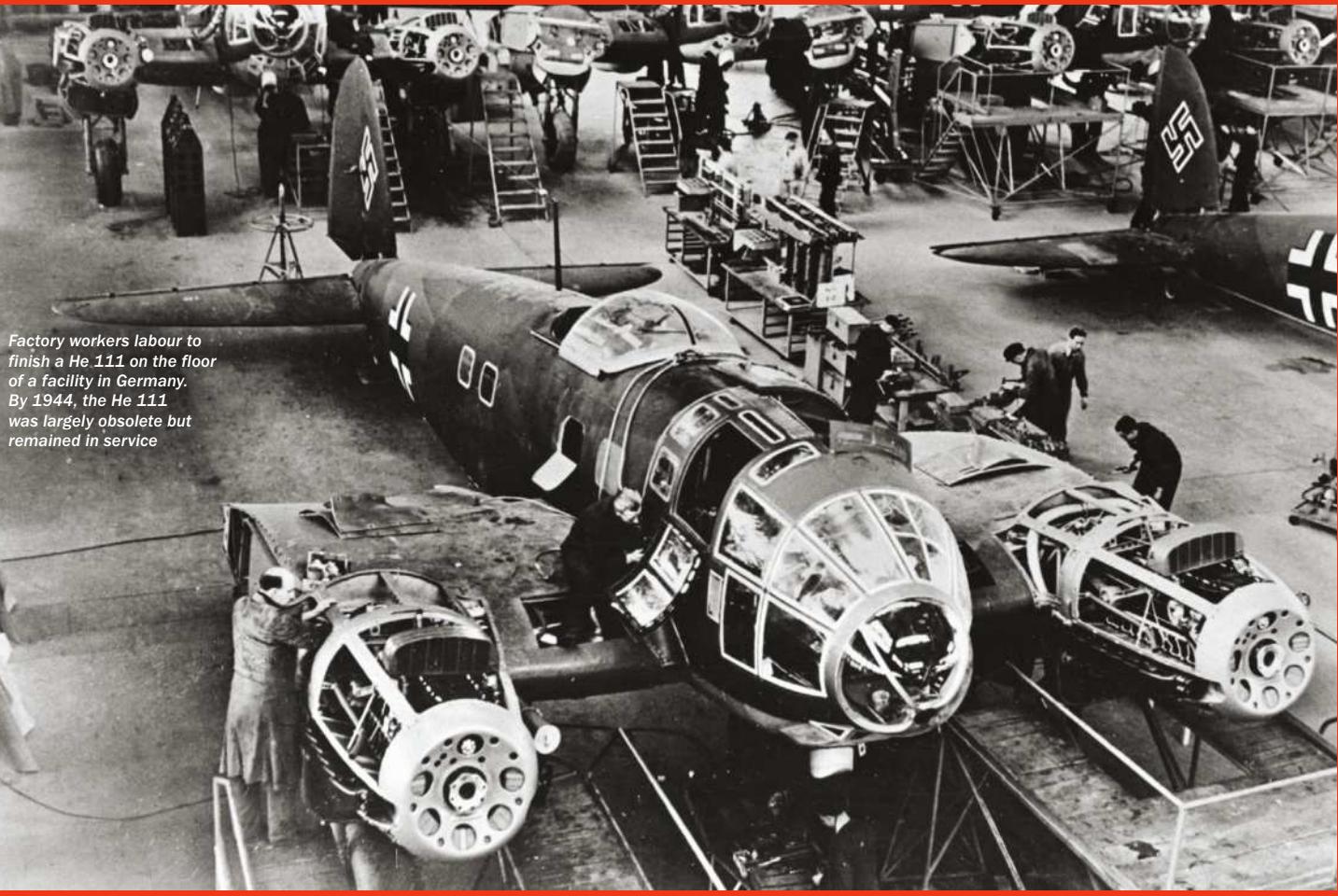
*Ernst Heinkel (right) with Siegfried Günter, working to perfect the design of the He 111*



## DESIGN



The Günter brothers based their He 111 design on the proven He 70 Blitz. As a twin-engine version of its predecessor, the He 111 was often called the Doppel Blitz, or 'Double Lightning'. The aircraft kept the elliptical wing design, although the surfaces were lengthened, and the extended fuselage could accommodate passengers and later a payload of bombs. The original BMW VI engines were deemed underpowered, giving way to the Daimler and then Junkers models. A single vertical fin was somewhat oversized for the aircraft's profile. However, all surfaces were designed for maximum aerodynamics. The defensive machine guns were located in the nose and in flexible dorsal, ventral and lateral positions.



*Factory workers labour to finish a He 111 on the floor of a facility in Germany. By 1944, the He 111 was largely obsolete but remained in service*



## SERVICE HISTORY

### THE HEINKEL HE 111 MEDIUM BOMBER SAW ACTION IN ALL THEATRES OF WWII IN WHICH THE LUFTWAFFE OPERATED

The Heinkel He 111 entered civilian air service with Lufthansa in 1936. When the German war machine smashed across the Polish frontier on 1 September 1939, formations of the medium bombers flew overhead, striking both tactical and strategic targets. During the Polish Campaign, the Luftwaffe deployed about 700 operational He 111s of the early P variant, the first to include the glazed cockpit and flight deck for which the aircraft is well known.

Initial prototypes had already been sold to China during the 1930s, while the He 111 experienced its combat debut with the Condor Legion during the Spanish Civil War in 1936. More than 70 variants and subvariants of the He 111 were developed during a production run that extended to the autumn of 1944, and approximately 8,000 civilian and military aircraft were produced.

The terror bombing of the Dutch city of Rotterdam on 14 May 1940 was executed by He 111s of Kampfgeschwader (Bomber Wing) 54. By the time of the Battle of Britain in 1940, the He 111H was the primary model in service and bore the brunt of the missions. Of the 34 Luftwaffe air groups committed to the fray, 15 were equipped with the He 111. The aircraft proved capable of taking

terrific punishment and returning to base, although its defensive armament was deemed inadequate, while airspeed was slowed significantly when fully loaded. By early 1943, the He 111 had become functionally obsolescent with the introduction of new Luftwaffe designs and growing Allied air

superiority. However, the aircraft remained in service through to the end of the conflict. In addition to tactical and strategic bombing, it was employed in a torpedo configuration, towed glider aircraft and was modified to carry the HS 293 missile. The last He 111 retired from service in Spain in 1975.





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# RAF NIGHT FIGHTERS

Eighty years ago, the Blitz was in full swing, but the RAF was initially all but impotent in its efforts to effectively counter nocturnal attacks. However, skilled piloting and technological innovation soon saw the night-time defenders gain significant victories over the Luftwaffe

WORDS ANDY SAUNDERS



© Getty

When the Luftwaffe abandoned its daylight attacks against airfields, aircraft factories and other parts of Britain's defence infrastructure in early September 1940, turning instead to London and other cities, it was of course a relief to a beleaguered RAF Fighter Command. Yet at the same time it was something of a bittersweet moment. While the pressure was off the fighter defences, those same defences proved all but powerless to stop the night attacks – at least in any meaningful manner.

Part of the problem lay in the fact that RAF Fighter Command had been very much geared-up as a day fighter force, with relatively scant attention paid to the question of night-time defence. In any event, pre-war preparations for the air defence of Britain were largely predicated on the notion that enemy bombers would not be able to see their military targets by night. Similarly, any defending fighter pilots would be unlikely to be able to see any attackers, either. Therefore relatively little emphasis was placed on night-fighting development. All this, of course, did not foresee the advent of radar or mass night-time attacks on British cities and commercial and industrial targets.

The thinking of planners during the 1930s was very much along the lines that British fighters would simply need to defend against daylight attackers crossing the North Sea flying from their German bases. It was considered – not unreasonably – that these bombers would be unescorted because of the long range. For that same reason, the Boulton Paul Defiant four-gun turret fighter was conceived as a 'bomber destroyer', the intention being to sail into undefended bomber streams and simply pick them off. None of this, of course, foresaw

that German bombers would operate from bases in France and Belgium, with fighter escorts based right up on the Channel coast. In many respects, RAF Fighter Command had been wrong-footed as to how it might likely be required to defend Britain. That is notwithstanding the excellent infrastructure supporting Fighter Command through the world's first integrated air defence command and control system, or 'Dowding System'. For all that, though, nocturnal defence seemed fatally lacking.

For the Luftwaffe, which suffered grievous combat losses during the daylight phase of the Battle of Britain, round-the-clock attacks on London and other centres of population, beginning on 7 September 1940, at least highlighted one simple fact: losses of bombers by night (which did not require fighter escort) were significantly less than those suffered by day. Of course, it wasn't rocket

**"I WAS ONE OF THOSE SELECTED TO GO, ALTHOUGH I HAD NEVER FLOWN A HURRICANE AT NIGHT. I DEEMED IT POLITIC NOT TO REVEAL THIS FACT AT SUCH A LATE STAGE"**

science, and the Luftwaffe was very much aware that the RAF's night-fighting capability – much like its own at that time – would be unable to effectively counter a nocturnal assault.

Initially, daylight attacks continued in tandem with night raids. Inevitably, those daylight raids

resulted in continued heavy losses by the bomber force, while night bombers remained relatively immune from the limited fighter defences and ineffective anti-aircraft guns. It is not surprising, then, that mass daylight attacks all but petered out by early October. However, despite the paucity of its night-fighting capability, the RAF recognised at an early stage of the war that it needed to do more with what it currently had to hand.

Initially, and dedicated night-fighting squadrons aside, RAF Fighter Command regularly committed day fighters to defensive patrols by night. Generally, these were by single Hurricanes or Spitfires that were sent off on patrol lines to search for raiders. Successes were minimal, although some early and somewhat surprising 'kills' were achieved even before the Battle of Britain had started, let alone the Blitz having commenced. These were achieved on the night of 19–20 June 1940 over East Anglia, when Spitfires of 19 and 74 squadrons brought down three Heinkel 111s of Kampfgeschwader 4. They were, though, unusual successes, and night-fighter operations by single-seat fighters were as hazardous as they were unproductive. Pilot Officer Peter Parrot, a Hurricane pilot with 145 Squadron at RAF Westhampnett, told us how it was. "We were surprised to be ordered to put three of our number over on night readiness on 8 August 1940, the first time we had been called for this duty. I was one of those selected to go, although I had never flown a Hurricane at night. I deemed it politic not to reveal this fact at such a late stage. It was, I suppose, inevitable that I should draw the short straw and be the first to go if we were scrambled. And I was.

"Taxiing to the flarepath was another innovation – at walking speed with an airman on each wing tip to guide me. As I took-off, there was no visible



horizon, so I concentrated on the blind flying instruments. As I climbed, I saw both searchlight beams seeking targets and flashes of ant-aircraft shells. I next noticed the Hurricane was gaining height rather slowly. I scanned the instruments. All was reassuringly normal. No red lights. Wait a minute! In concentrating on the flying instruments, I had omitted to raise the undercarriage. Rectifying this improved the rate of climb considerably, and having reached the height ordered, I levelled off and headed towards the action.

"Then, I was almost immediately caught and totally blinded by a searchlight. No matter what evasive action I took I was held in the beam.

I asked the controller to have the light doused, to no avail. To lose the beam I had to get out of its range. This I eventually did whilst worrying I would become a target for the anti-aircraft guns as I was very nicely illuminated, thank you very much.

"Recovering my night vision took a while, but I was recalled after a fruitless hour. As I came in, the Merlin crackled with great jets of bluish flame issuing from the exhaust. A judicious adjustment of the throttle and I got the same result. It played havoc with your night vision just at the point when you needed it most. It had been more nerve-wracking than fighting the Luftwaffe!"

Parrot had been lucky, but many pilots were lost on operations such as these. One was Sgt. H. N. Howes, a Hurricane pilot with 85 Squadron. An experienced fighter pilot in the battles of France and Britain, Howes shot down at least ten enemy aircraft by day, shared in the destruction of others and claimed several as damaged as well as some 'probables'. Awarded the DFM, he was killed on 22 December 1940 after losing control during a futile 'Fighter Night' patrol. But it hadn't all been about Spitfires and Hurricanes trying to 'stop the gap'.

On the same night as the success over East Anglia on 19–20 June, Bristol Blenheims of 23

Squadron had joined that particular fray, with one crew sharing in the destruction of one of the Heinkels hit by the Spitfires and another crew shooting one down on the coast. But these crews had relied on the 'Mk 1 eyeball' to find their quarry in the night sky. Down on the Sussex coast at RAF Ford, though, the newly formed Fighter Interception Unit was developing night-fighting techniques as well as initiating operations with the new on-board AI (Airborne Interception) Radar equipment, and on 23–24 July a Blenheim of the FIU made the first claim using the new equipment: a Dornier 17Z over the English Channel. Some doubt, however, existed about the claim by Flying Officer Ashfield and Pilot Officer Morris.

To show that AI worked, solid wreckage was needed on the ground; in other words, an absolutely confirmed 'kill'. That, however, would be some time coming. Quantitatively, though, the force of RAF night fighters was theoretically strong enough to inflict serious losses on the raiders, but qualitatively

*A pilot and gunner climb into their RAF Blenheim aircraft for a night fighter patrol*



its equipment was poor, the new technology insufficiently developed.

Meanwhile, stop-gap day fighters continued the battle. One or two, quite remarkably, achieved a reasonable degree of success on what became known as 'Cats-Eyes' patrols – using eyesight rather than radar. One such was Hurricane pilot Flight Lieutenant Richard Playne Stevens DSO, DFC & Bar, who became the highest-scoring 'ace' of the Blitz, shooting down no less than 14 raiders using his remarkable night vision. But he was an exception to the general rule.

Also pressed into the night defence role were the Boulton Paul Defiant squadrons. An abject failure against fighter-defended bombers by day, they achieved reasonable success by night – although still far removed from their inception as 'bomber destroyers'. The way forward, clearly, was to get AI to the point of being an effective weapon and the development of a Ground Controlled Interception (GCI) system. Important, too, was the 'right' aircraft

## "PARROT HAD BEEN LUCKY, BUT A GOOD MANY SPITFIRE AND HURRICANE PILOTS WERE LOST ON OPERATIONS SUCH AS THESE"

to fit the AI into. Fortunately, the new Bristol Beaufighter – initially conceived as a day fighter – was already being brought into service in the night-fighting role. It was ideally suited for fitment with AI.

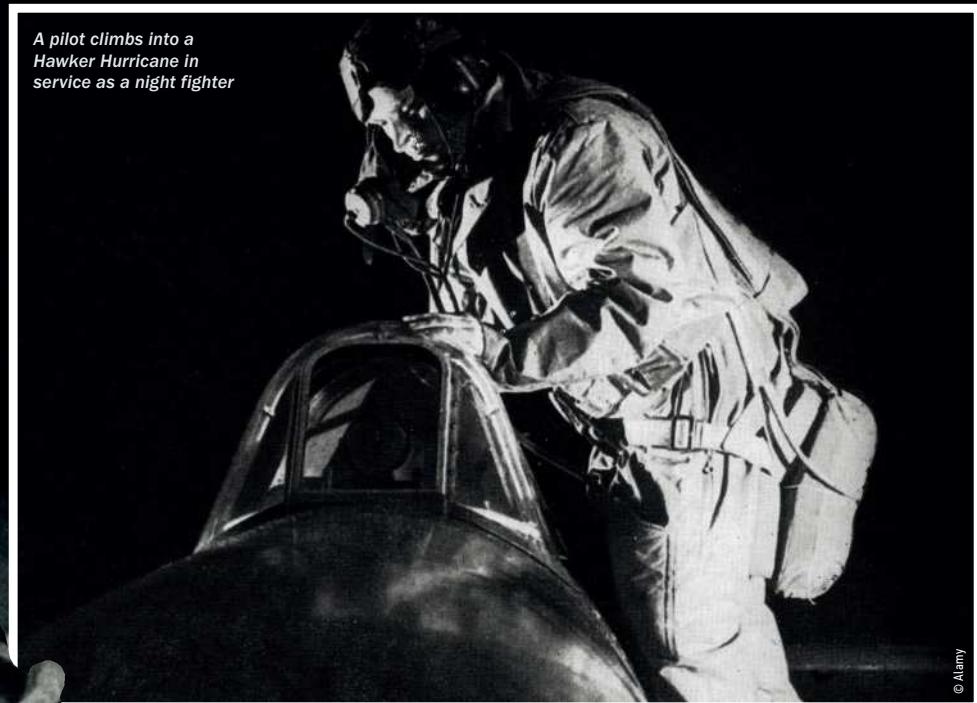
Finally, on the night of 14/15 November 1940, Flight Lieutenant John Cunningham, in a Beaufighter of 604 Squadron, intercepted a Junkers 88 of 1/KG54 over the West Sussex coast after his radar operator picked the raider up on his AI set. The bomber was hit in a fusillade by 20mm cannon shells and .303 rounds, plunging to earth in East

Wittering, Sussex. Later, the press would laud Cunningham and give him the epithet 'Cats Eyes', it being suggested he had exceptional night vision like his contemporary, Richard Stevens. Cunningham hated the nickname, but in the interests of preserving the AI radar secret he endured the pretence that it was all down to a diet of carrots – a silly tale that nevertheless gained credibility with the British public.

Of the reality, Cunningham's biographer, C. F. Rawnsley wrote, "At last, after all the long months of trial and error, of strain and worry and frustration, he [Cunningham] had come to grips with the enemy. The good news was flashed immediately to Group HQ, to Fighter Command HQ and to the Air Ministry. There was solid wreckage on the ground to justify the faith of all those who had worked so hard for so long to bring the radar night fighter into its own."

In terms of Britain's aerial night defence, a corner had been turned. The C-in-C, RAF Fighter Command, Air Marshal Sir Sholto Douglas, was heartened by

*A pilot climbs into a Hawker Hurricane in service as a night fighter*



© Alamy



the news. Of his predecessor, Air Chief Marshal Sir Hugh Dowding's biographer noted, "He was sorry to lose the chance of seeing to fruition his work on airborne radar and the like, especially as it had reached a very interesting stage."

Certainly, it was the case that by early 1941, Britain's night-fighting capability was in a much better place. In other areas, too, there were developments. Among them, radar-guided AA guns and radar searchlights. Meanwhile, the Mosquito

was under development and ultimately proved a potent night fighter. Nevertheless, even by the spring of 1941, German raiders were statistically unlikely to encounter RAF night fighters.

Generally, it is accepted that the Blitz ended on 11 May 1941, coinciding with the colossal German assault on the USSR codenamed Operation Barbarossa. A consequence of the Germans turning their attention eastwards was that the Luftwaffe could no longer sustain the intensity of air attacks on Britain and the Blitz finally petered out after eight months and five days.

Although the Blitz had failed to bring about the collapse the Germans anticipated, it had not been unprofitable for them. Most rewarding had been the adverse affect on British aircraft production, seriously impaired by the destruction of factories and the enforced dispersal of plant.

The Germans also inflicted heavy commercial and residential damage. More than 1 million houses were damaged or destroyed, and casualties sustained by the civilian population were nearly 45,000 killed and some 50,000 injured. However, the Blitz was far from being a strategic victory.

*A German plane shot down during the night over England, 13 March 1941*



As widespread as the damage was, its affect on overall production was not serious. In the onslaught on ports, just 70,000 tons of food stocks were destroyed, and oil stocks were depleted by less than half of one per cent. Damage to communications networks, roads and railway lines were serious at times but repairs were quickly effected. At no stage did it appear that permanent irreparable damage was being done or the ability of the country to wage war would be impaired. Nor was there any real likelihood of morale reaching the point where the population would force the government to sue for peace as the Germans hoped.

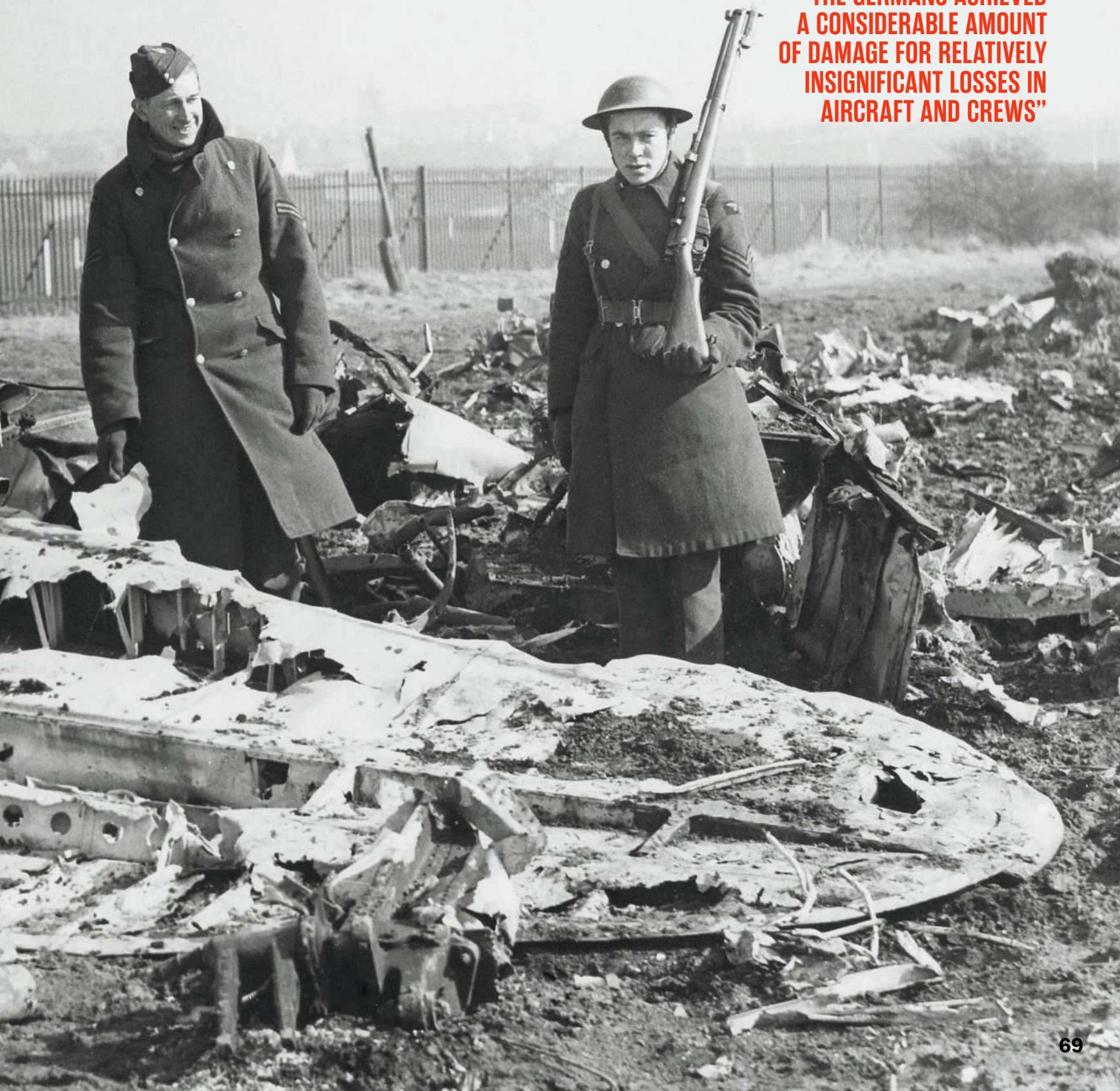
It must be conceded, though, that the Germans achieved a considerable amount of damage for relatively insignificant losses in aircraft and crews. Wholesale destruction and disruption had been achieved for the loss on night operations of about 600 bomber aircraft. The campaign had been conducted at no great expense to the Luftwaffe but militarily had achieved little more than to force the RAF and army to retain large numbers of men and equipment in Britain that were needed elsewhere.

The Blitz taught much to both sides, but one thing was particularly clear: truly effective strategic bombing could only be achieved by directing an

enormous weight of bombs at vital objectives, such as power installations, aircraft industry and ports. For much of WWII this was beyond the capability of any nation. It was certainly beyond the capability of Germany in the period from September 1940 through to the spring of 1941.

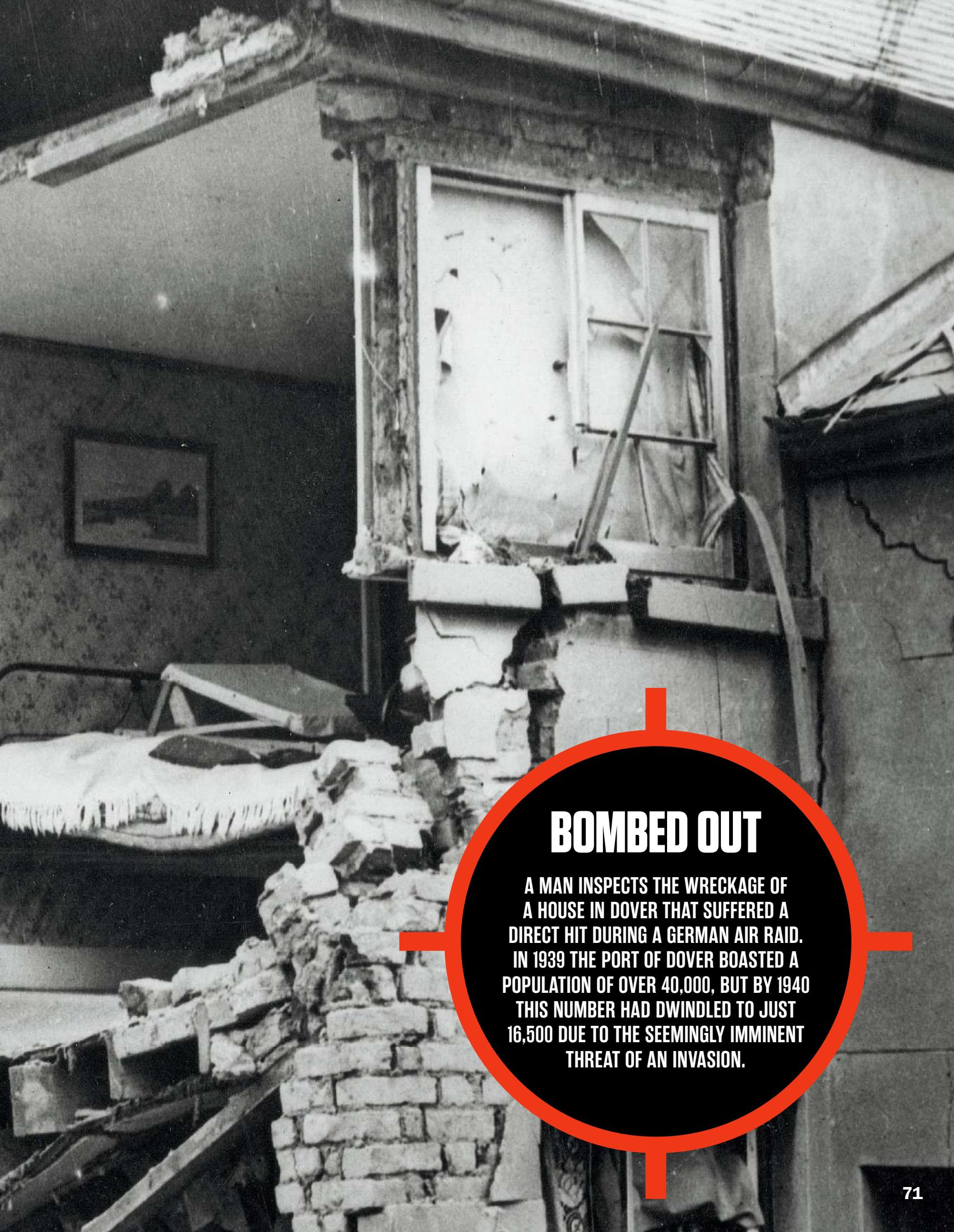
In that respect, it might be concluded that, effective or not, the RAF's night-fighting capability across 1940 and 1941 did not greatly influence the outcome of the Blitz one way or any other. Neither did its existence greatly hamper the Luftwaffe's efforts, even when the RAF's prowess at night was greatly improved.

**"THE GERMANS ACHIEVED A CONSIDERABLE AMOUNT OF DAMAGE FOR RELATIVELY INSIGNIFICANT LOSSES IN AIRCRAFT AND CREWS"**



AN ENDLESS INFERNO





## BOMBED OUT

A MAN INSPECTS THE WRECKAGE OF A HOUSE IN DOVER THAT SUFFERED A DIRECT HIT DURING A GERMAN AIR RAID. IN 1939 THE PORT OF DOVER BOASTED A POPULATION OF OVER 40,000, BUT BY 1940 THIS NUMBER HAD DWINDLED TO JUST 16,500 DUE TO THE SEEMINGLY IMMINENT THREAT OF AN INVASION.

# THE SECOND GREAT FIRE OF LONDON

One of the most deadly and destructive air raids on London during the Blitz, the Second Great Fire caused widespread devastation

WORDS BEE GINGER



**O**n the night of 29 December 1940, at approximately 6.15 p.m., chaos descended on the city of London. Over the course of a single night the German Luftwaffe deployed 136 bombers with approximately 100,000 bombs over London, their deadly payloads causing fires all over the capital and destroying a large segment of the city. The fires raged and ravished during the night of the 29th and into the 30th, and in the space of only a few hours more lives were lost and a greater area burned than in the famous 1666 blaze of the First Great Fire of London.

The German pilots deliberately targeted train stations, bridges over the River Thames and communication lines, namely the London Telephony system on Queen Victoria Street, which was also the hub for the international telephony circuits. Warehouses, timber yards and sawmills were also marked for obliteration.

German planes carried mainly incendiary bombs on this particular night. They were not intended to destroy on impact but to cause as many fires as possible. Although the bombs themselves were relatively small (34.5 centimetres in length and five centimetres in diameter) they were packed with magnesium alloy and another compound called thermite. On impact the thermite would ignite.

The heat from this also ignited the magnesium, creating an intense fire. This would then ignite any flammable material it came into contact with.

Each plane could carry approximately 180 bombs on board. This resulted in an incredible 1,500 fires in the city of London. Homes, factories, pubs and offices were destroyed. A staggering 17 churches were also damaged, many of which had been built by Sir Christopher Wren. Sadly, only eight were later rebuilt. Entire streets were flattened, and 31 guildhalls in the Square Mile were completely incinerated. Saddler's Hall was also completely decimated. Paternoster Square and Paternoster Row were the centres of the publishing industry, with many books stored in these historic buildings. The night's fires consumed around 5 million books.

Prime Minister Winston Churchill was particularly concerned about St Paul's Cathedral. He stated that it "must be saved at all costs". A dedicated group had originally been set up to ensure its safety during WWI. It then reformed in 1939 and was named the St Paul's Watch. This multinational group undertook great risks to ensure that the cathedral was maintained and able to hold daily services throughout the war. They also documented many events throughout the war, including the attack, in a log that is today stored in the St. Paul's Archives.

On this fateful night St Paul's Cathedral was hit with 28 bombs. One made its way through the lead outer roof of the cathedral's dome, almost setting the inner wood structure alight. Thankfully, it melted away the lead holding it in place and it fell into the Stone Gallery, where firefighters were able to extinguish it swiftly. However, the area around the cathedral was not so lucky and was completely burned out.

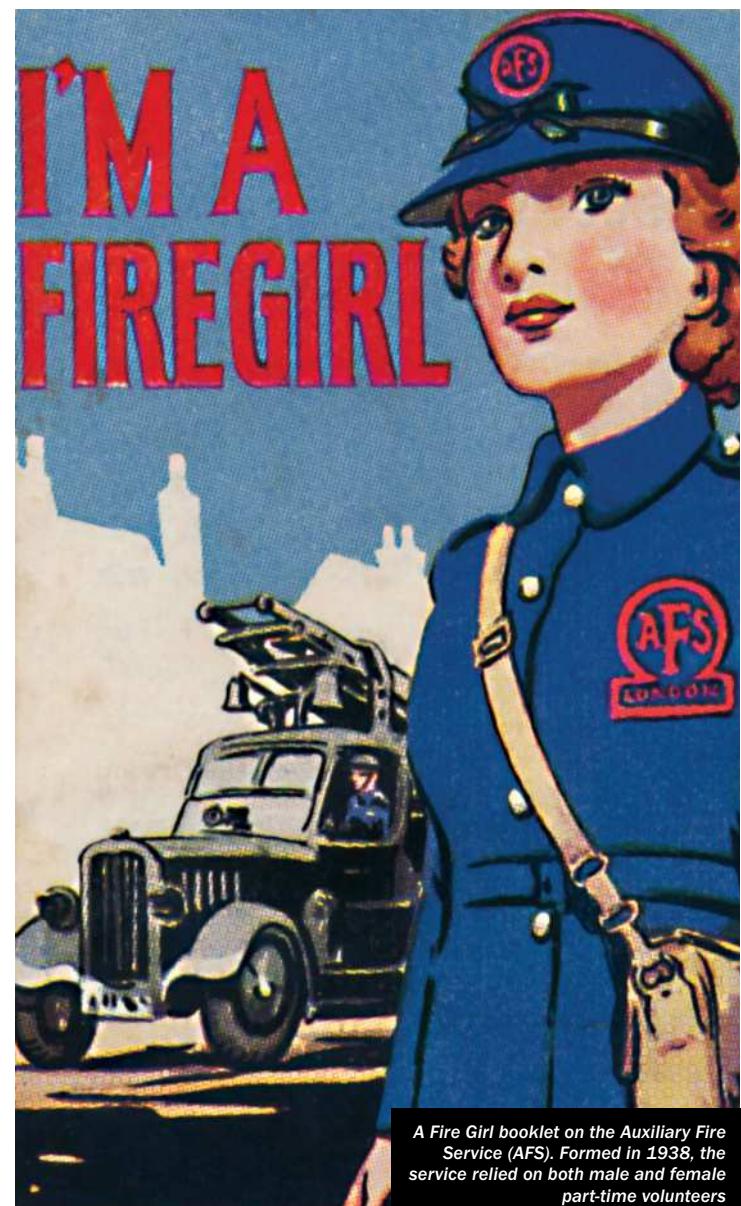
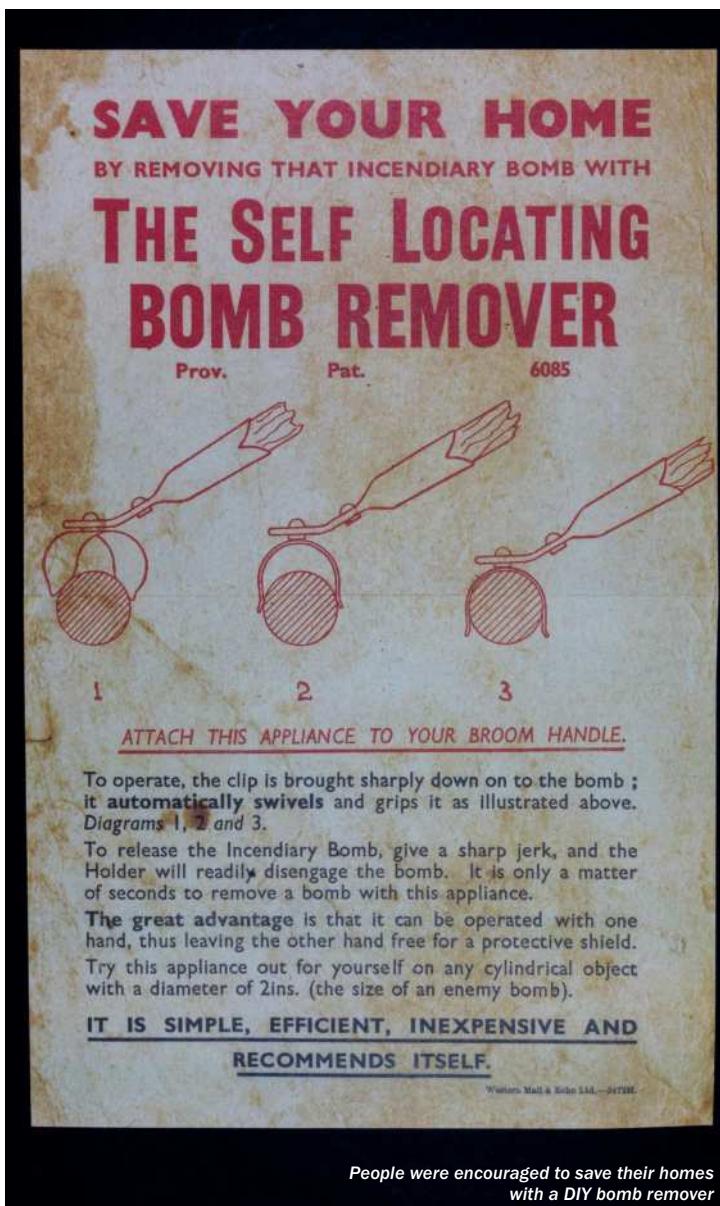
Thankfully, the human toll was not as heavy as it could have been. The Luftwaffe had planned to send a follow-up wave of bombers, but due to the poor weather conditions they were in fact cancelled. It was these planes that had been carrying the extremely high explosives. Due to the Christmas period many workers were also away from their places of work, but this did mean that there were fewer people to help put out the fires. Water was another issue facing the firefighters. The city's primary water main had been bombed, and due to so many tapping into the other water pipes the overall pressure failed. Even those attempting to get water from the Thames had a struggle as the tide was low and their pipes became clogged with mud. The low tide also meant that the use of fire boats became impossible. While the men manned the pumps the women drove vans filled with petrol

*Ignited by a high explosive, a fire rages in Ave Maria Lane during the night of the Second Great Fire*



*Firefighters battle a blaze near St Paul's*





through the burning London streets to ensure sufficient fuel in the pumps. The author Francis Becket wrote of their courage. "Driving vans laden with petrol through the flames that night was about as dangerous a job as you could do."

The sheer scope of the challenges faced by the London Fire Brigade was only later fully uncovered. The record for that night reads that there were six conflagrations that needed 100 pumps to fight, 101 fires that required ten pumps, 51 that needed 20 pumps, 28 fires each needing over 30 pumps, and 1,286 fires that took a single pump to contain. That night over 2,300 pumps were at work over the city, many having been sourced from surrounding regions. The wind on this momentous night was also not in the favour of the firefighters. Strong winds from the South West made conditions for tackling the blaze increasingly hazardous, as did the concentrated area of the attack, which further hampered the fire service.

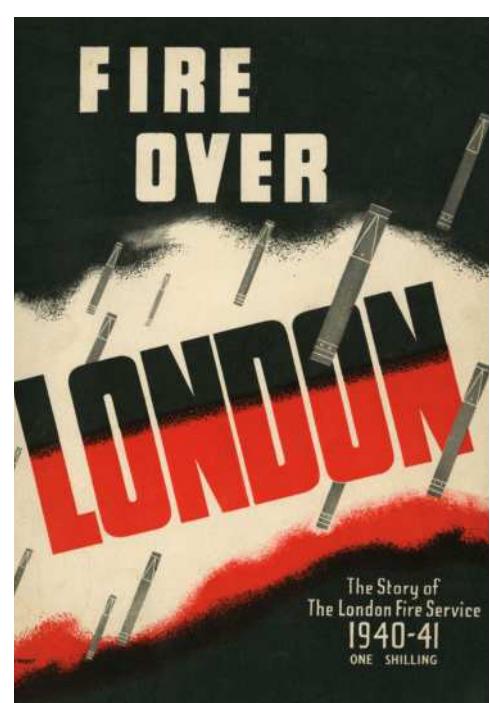
By 8 a.m. on the 30th the situation was brought under control. The tide in the Thames had turned throughout the night and the water returned, which was essential for those still fighting tirelessly. Many fires continued to burn throughout the next day but thankfully did not spread. It was estimated that around 24,000 incendiary bombs and the

occasional high-explosive bomb had been dropped over a three-and-a-half-hour period.

Volunteers and firefighters not only struggled to contain the flames but also dealt with the hundreds of unexploded bombs from the previous nights of the Blitz. Despite most of the fires being extinguished by the next morning, many raged on for days, the city feeling the effects well into the New Year as it slowly started to recover from the destruction. That night 160 civilians and 14 firefighters lost their lives, many of whom succumbed to their injuries and burns in the days that followed.

Describing the scene that faced the firefighters that night, Sam Chauveau of the London Fire Brigade said, "By the time we finished tackling the fires on the roof of the Stock Exchange, the sky, which was ebony black when we first got up there, was now changing to a yellowy orange colour. It looked like there was an enormous circle of fire, including St Paul's churchyard."

Ultimately, it was the strength, bravery and fighting spirit of London's firefighters, volunteers and civilians that combined to save the country's capital city from further ruin, a determination that would serve as an inspiration to all throughout the rest of the Blitz.





GOVERNMENT EVACUATION SCHEME

# BLITZ KIDS

Torn away from their families or kept at home in cities pummelled by bombs, children were forced to face the merciless might of Nazi Germany

WORDS DAVID CROOKES



**B**y 6 September 1940, Britain had been in the grip of war against Nazi Germany for just over a year, and things were not going well.

France had fallen in June and the Luftwaffe had been directly assaulting airfields, factories and shipping in Britain. But while an invasion seemed likely, the chief of the air staff's 1939 prediction – of a bombardment of civilian targets in London causing 175,000 casualties in the first 24 hours – had not materialised. There was relative calm on the streets of the capital. Then, on 7 September 1940, that all changed.

The Blitz, as it became known, was an all-out attack that started in London and spread to other cities and towns across Britain. It continued for over eight months and aimed to test the resolve of the British public in the cruellest and most devastating of ways. 159 major air raids were conducted and 31,822 tons of bombs were dropped. On 14 November 1940, 500 Luftwaffe bombers almost wiped Coventry off the map as it sought to destroy the city's munitions factories. On 29 December 1940, 1,400 fires raged across London following the heaviest night of Blitz bombing. St Paul's Cathedral was miraculously left standing.

The bombs left millions of homes destroyed and 43,000 civilians dead. They also had a profound impact on the nation's children, whether they had been sent away to the homes of strangers in the countryside or abroad, or were spending nights huddled with their families in cramped air-raid shelters. Playground friends would be killed or injured; mothers would be maimed. Babies would gasp their last breaths and children would see limbs in the most unusual of places, having been propelled by a blast. Gas masks were as much an accessory as smartphones are for youngsters today.

At the same time, the children also came to have greater freedom and responsibilities than they had ever previously experienced. They acted as comforters, worked side by side with adults in assisting the war effort, broadened their minds in new environments and became skilful in household tasks. They learned to cope with the harsh realities of rationing (which severely cut down the number of sweets they could eat, among many other foods) and they had to prove resourceful.

When the Blitz ended on 21 May 1941 and the evacuees returned, life began returning to some normality, although air raids continued. In 1944, Hitler unleashed a second Blitz, this time using his secret weapons: the V1 and V2 flying bombs, unleashed by a desperate Nazi hierarchy in a vain attempt to alter the course of the war. The first V1 fell on 13 June 1944 and London suburbs began suffering greatly. Juvenile crime also rose and police blamed it on the returning evacuees wanting to have fun by smashing up and playing on bomb-damaged properties. There was no denying the impact the Blitz had on Britain's children – and the impact the children had on Blitzed Britain.

**"THE BOMBS LEFT MILLIONS OF HOMES DESTROYED AND 43,000 CIVILIANS DEAD. THEY ALSO HAD A PROFOUND IMPACT ON THE NATION'S CHILDREN"**



## EYEWITNESS



**PHYLLIS DAVIES**  
Home town:  
Manchester  
Age during the  
Blitz: 8  
Brief bio: Phyllis' only  
taste of country life  
before evacuation

had been gleaned from trips to Manchester's Heaton Park, so when she was evacuated she was largely unprepared.

### Was it hard as a child to suddenly have to leave home?

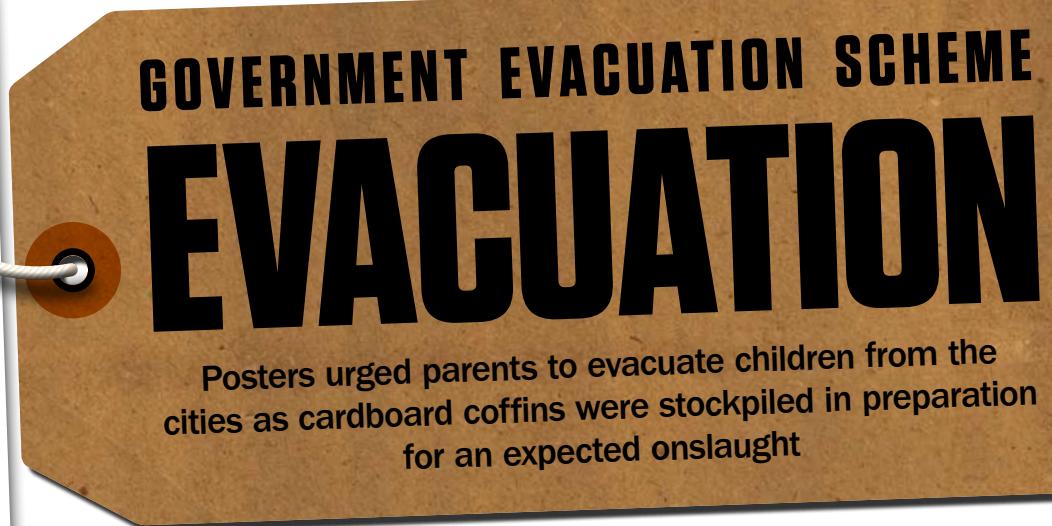
It was. I remember being taken to London Road Railway Station, which is now Manchester Piccadilly, and it was horrendous. I had never been away from home and, as far as I knew, I was going on holiday. People were waving goodbye and my mum was crying. I cried too. They kept saying I was going to flood the train but I just wanted home.

### What was it like when you arrived?

We went to a school room in Uttoxeter and people picked who they wanted, a bit like a cattle market. It wasn't a happy time. My job was to clean the kitchen, living room and parlour and keep the fire going. I had to clean the hen house too. My mum visited and asked me how often I did that; I said every week. I was home that night.

### Did you stay at home?

No, I was evacuated again to Marchington. I was always hungry, though. I would have porridge with no sugar or milk, school dinners and a piece of toast in the evening. I used to get food from the fields and eat that. They were tough times.



**B**y the time the Luftwaffe began raining bombs from the air on 7 September 1940, millions of children had already been evacuated from British cities to the safety of the countryside or abroad. The British Government had acted some four days before it declared war on Germany, issuing an order on 31 August 1939 at 11.07 a.m. to "evacuate forthwith".

The evacuation was codenamed Operation Pied Piper and, during the first few days alone, 735,000 unaccompanied British children and 426,500 mothers with children were being moved as a precaution against a possible German invasion. It was an audacious plan and had been in the making for more than a year. In 1938, children were issued with gas masks and London County Council put its own evacuation plan into action, moving nursery children and disabled people when Germany threatened to invade Czechoslovakia. By July 1939, residents had been privately leaving the capital, but those were mere trickles in comparison.

While evacuation was voluntary, the many leaflets and public information films proved persuasive, and children were sent to gather at their schools where they were handed identity labels. Some were taken on double-decker buses

and many were marched to railway stations, each child carrying their gas mask and a few personal possessions, ready to begin their journeys on one of the 1,500 special trains that had been laid on.

There were harrowing scenes. Young children cried for their parents while their mothers screamed instructions for the children to look after themselves. Siblings clung tightly to each other while the 100,000 teachers that were sent with the children tried to keep spirits high with bursts of song. Older children were more excited and saw the trip as an adventure. They would mock the frightened younger ones for crying, and their exuberance led reporters to write about Operation Pied Piper as a largely positive experience.

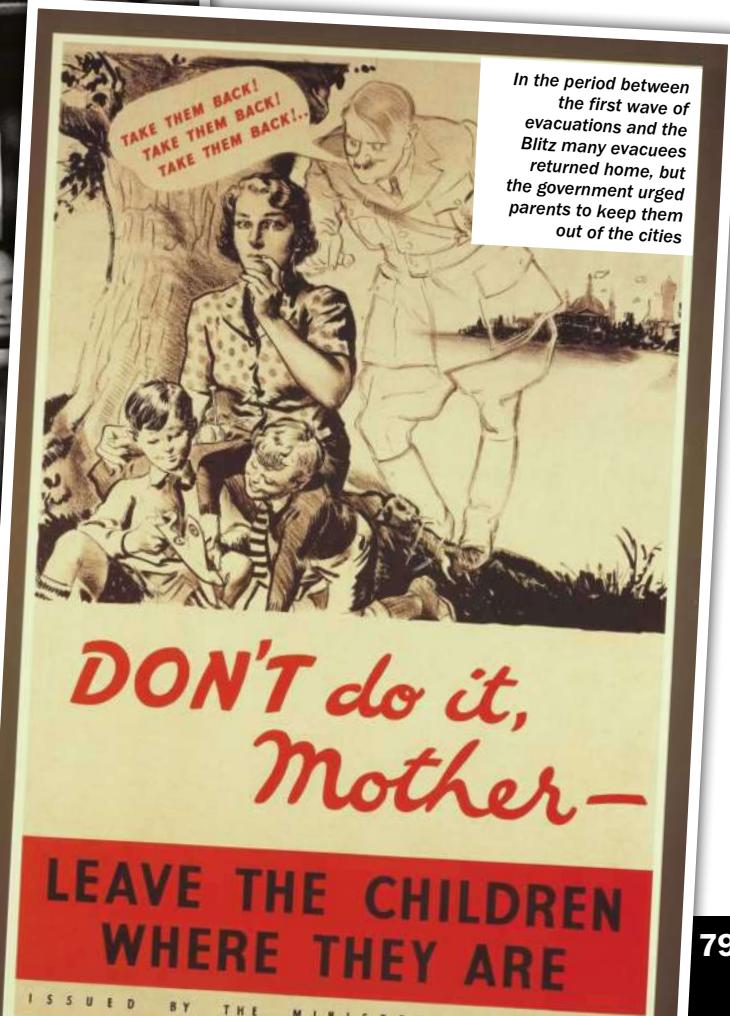
When the children reached their countryside destination, they were either taken to a sizeable venue – typically a village hall – or driven from house to house. Potential foster parents would cast their eyes over the youngsters and decide who they wanted. Usually, the most presentable children were taken first, and children who insisted on being accompanied by a sibling were often rejected. An emergency order meant that evacuees had to be housed in spare bedrooms, so some foster parents were forced to take children in. As a result, amid

the happy recollections of being sent away to the countryside were tales of beatings, enforced work and terrible neglect. Operation Pied Piper was also a culture shock for many foster parents and children.

But the evacuations saved countless lives. Although large numbers of children returned home at the beginning of 1940 when the expected bombardment failed to materialise, the fall of France on 13 June 1940 prompted a second wave of evacuations. Even more moved away in September when it became clear the Blitz attacks were to be relentless. It was not without its heartache, though. On 18 September 1940, a Nazi U-boat sank a liner taking evacuees to Canada, killing 83 children.

Bombs tore apart key cities including London, Coventry, Manchester and Swansea. Had all of the evacuated children remained behind, the death toll would have been much higher and the strain on the air-raid shelters immense. The plan may have had a curious name – the fictional Pied Piper of Hamelin lured children away never to be seen again – but it ensured the majority would eventually return safe and well.

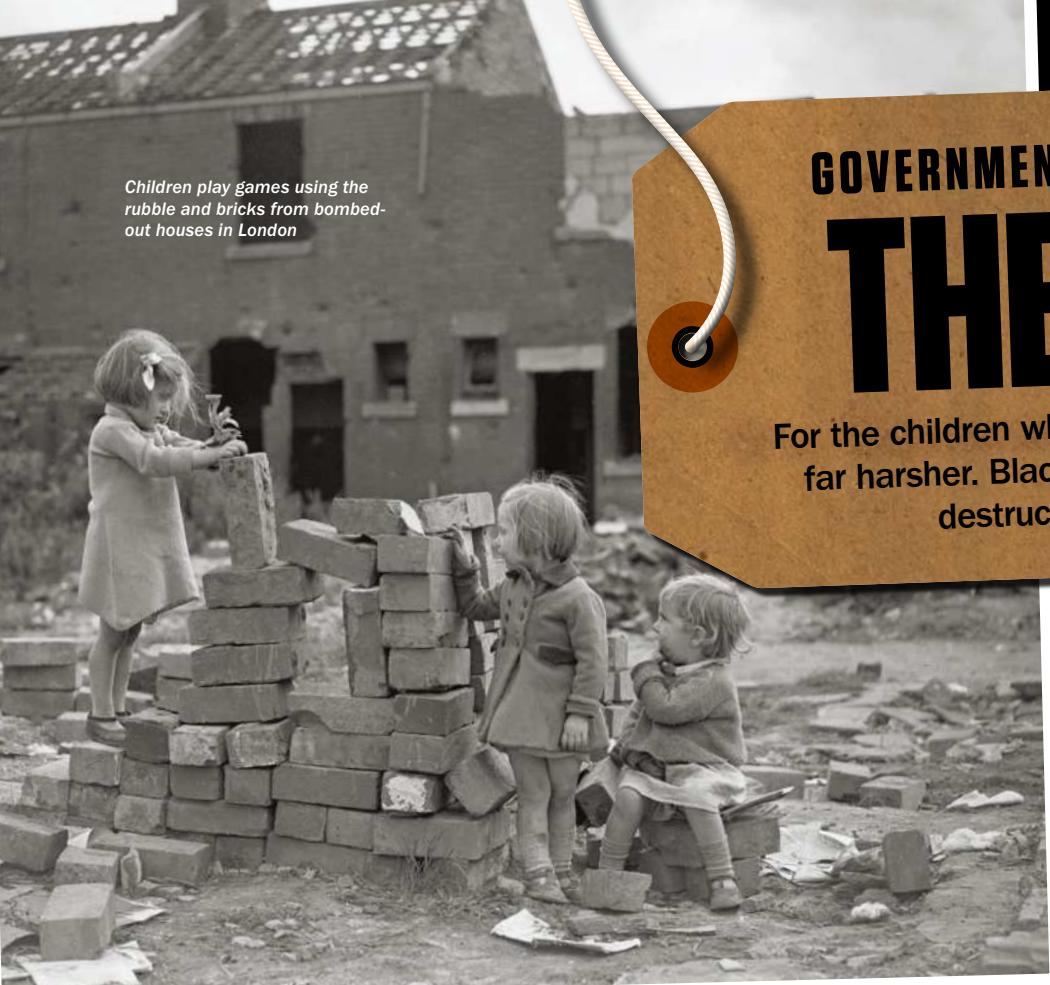




Children play games using the rubble and bricks from bombed-out houses in London

# GOVERNMENT EVACUATION SCHEME THE CITIES

For the children who were not evacuated, the war was far harsher. Blackouts, air-raid shelters, death and destruction became a way of life



**H**undreds of thousands of children were not evacuated from the cities, as their families decided it was preferable for them to stay together during the onslaught. It wasn't such a bad idea, as there was evidence following the war that it had actually proved better for them than being moved into the country (Penny Starns writes in her book *Blitz Families: The Children Who Stayed Behind* of children growing taller and more robust in the cities than in the country. She says they were less depressed, more emotionally stable and enjoyed the moments of family intimacy the air raids brought).

But wartime Britain nevertheless turned their lives upside down. 1 million city children were left without

## WHERE TO SEEK SHELTER IN AN AIR RAID



### ANDERSON SHELTER

**Pros:** Available for free to anyone earning less than £260 a year, these shelters were incredibly sturdy safe havens that were ideal for anyone with enough land.

**Cons:** Families had to build them and they were no deterrent against a direct hit. They were also cold, damp and very cramped. They were liable to flood.



### MORRISON SHELTER

**Pros:** These were heavy steel cages that could be used indoors, ensuring there were warm places for up to three people to sleep in. They were also easy to access.

**Cons:** Claustrophobic and hot, and some people felt they looked untidy. Ineffective against direct hits. If a house collapsed, the residents could be trapped.



### LONDON UNDERGROUND

**Pros:** Warm and deep enough underground to keep the thousands of people who used them safe from bombs. There were beds and entertainment available.

**Cons:** It initially cost a penny to go down to the sweltering platform and jostle for a position amid hundreds of people. Could be unsanitary.



### PUBLIC SHELTER

**Pros:** Built from March 1940, these offered protection for people who were nowhere near home during an air raid. Some tunnels were built into sandstone cliffs in Stockport.

**Cons:** The cheap and hurried construction of many shelters meant they were not bombproof. One flooded, tragically drowning many people inside. There was also evidence of anti-social behaviour.



### BASEMENT

**Pros:** People in larger houses could reinforce their cellars with girders and planks. These could be warm and spacious, and some even became shelters for public use.

**Cons:** If the house collapsed through a direct hit, the rubble on top could make escaping the basement difficult. Gas proofing was also advisable.



### RAILWAY ARCHES

**Pros:** Built out of brick and very strong, existing railway arches could shelter thousands of people. Sand bags or large physical barriers would protect against blasts.

**Cons:** The Germans would target railways, so the possibility of a direct hit was increased. Some – initially at least – didn't have effective toilet facilities, making them unhygienic.

education for months at a time as their schools were taken over for military purposes. Some had also been destroyed, such as Hallsville Junior School in the East End of London, which was crowded with refugees when it was directly hit on 10 September 1940, killing an estimated 600 people. The schools that were open were overcrowded, and so the children who remained found they had a lot of time on their hands.

It was a difficult period. As well as being on edge while the bombs fell, their homes were destroyed and people were maimed and killed. A small number of children also fell into trouble. In *The Secret History Of The Blitz*, author Joshua Levine says 48 per cent of those arrested by police between September 1940 and May 1941 were children, and in *Blitz Kids*, historian Sean Longden writes of juvenile delinquency rates rising by 40 per cent in the early part of the war. Young so-called blackout gangs caused problems, as did looters. There were also cases of teenage boys raiding Home Guard armaments in order to steal ammunition. Police were simply too stretched and struggled to keep control.

It didn't help that call-ups to the armed forces were ripping families apart, but efforts were nevertheless made to keep children occupied. The movie industry continued and cinemas proved attractive, as did youth clubs. For the most part, though, children made their own entertainment, playing in side streets and parks. They would collect

shrapnel and compare their finds. Plane spotting was also a popular hobby, with the excitement of seeing Spitfires and Hurricanes or aerial dogfights being a particular treat. But as the air-raid sirens wailed and the Luftwaffe dropped bomb after bomb, danger was never far away.

Cities burned and the skies choked with smoke. Night virtually turned to day in the flicker of the flames and it was both frightening and fascinating for young minds. Orphans were created in seconds and life was entirely disrupted. Each night, families would desperately seek protection within cramped Anderson shelters. In London, thousands headed for the Underground, buying tickets and piling on to the platforms even as the trains shunted past. Some stations were closed and children would bed down in the track area. They would scream as the bombs shook the ground and shudder as rats clambered over their small bodies.

Older children tried to lead as normal a life as possible – a prime example of the infamous 'Blitz Spirit' – and it wasn't unusual for them to dice with danger and walk the battered streets. Away from the arguments that often raged within the shelters, as hormonal and tired teens railed against the restrictions placed upon them, the adventurous explorers would encounter the bodies of those killed by falling bombs or spraying debris.

Some brave young souls insisted on sleeping in their own homes, preferring to risk their lives beneath the bombers rather than huddle with

strangers in dark and smelly places devoid of even the most basic of toilet facilities.

When those homes were destroyed, the children would have to move. Families were constantly seeking new places to live, but even in transit there was danger. Trains and buses would be targeted, and there were tales of children being fired at in the streets from above. The German bombers were unflinching and determined to pummel the British into submission, and children would become, understandably, bitter about the enemy. For if the cities in which they lived were being altered before their eyes, then their transition to adulthood was proving just as rapid. During eight months of the first Blitz, 5,028 children were killed, a devastating toll and the cost of Hitler's cruel and ultimately misguided crusade to crush Britain.

**"CITIES BURNED AND THE SKIES CHOKED WITH SMOKE. NIGHT VIRTUALLY TURNED TO DAY IN THE FLICKER OF THE FLAMES. ORPHANS WERE MADE IN SECONDS AND LIFE WAS ENTIRELY DISRUPTED"**





Girl Guides work on their hospital allotment to produce vegetables

## EYEWITNESS

### KEN CURRAH

Home town: Stockton  
Age during the Blitz: 15  
Brief bio: Ken Currah was a Boy Scout who was briefly evacuated from his home in

Stockton to the Scarborough coast. He spent most of the war in Teeside.

#### What was it like in the Boy Scouts during the war?

It was interesting. I ran the Scout troop at the age of 15 for a while until the local association found out and stopped me because I was too young to get a warrant. We would help the local community, getting shopping for older people who struggled to leave the house and things like that.

#### Did you directly help the war effort?

We had paper collections. Paper was never thrown away and it became one of the salvaged items at the start of the war. The Scouts helped to collect it. There was a photograph of me on top of a mountain of newspapers in the *Northern Echo*. The Scouts also collected pots and pans from housewives, which were melted down and used for aircraft. Recycling became ingrained in you because of the shortage of everything.

#### Were you also trained in first aid?

I was. We had to do so much first aid. One of the badges to take to become a first-class Scout was the ambulance badge. I took the exam and passed. I didn't have to use the skills luckily because we didn't get the air raids that the country got elsewhere.

## GOVERNMENT EVACUATION SCHEME CHILDREN AND THE WAR EFFORT

Many children wanted to do their bit, and as well as trying to enlist in the armed forces, they provided useful back up on the Home Front

**C**omics were popular among children during the Blitz, but the humorous strips contained some serious messages. Popular papers including *The Dandy* carried propaganda that deliberately made fools of the Axis leaders. While children enjoyed the hapless adventures of Musso, Addie and Hermy, they were being encouraged to support the Home Guard, ensure blackouts were adhered to and to collect waste paper for recycling. "If you keep waste paper saving going with a swing," *The Beano* said alongside a drawn image of Adolf Hitler in a noose, "maybe you'll soon see Hitler swing!"

Waste paper collections, along with scrap metal salvage, were important during a period when supplies were limited. Children would gather what they could find and it allowed them to feel they were doing their bit for the war effort. But this was just the tip of the iceberg, as children carried out a host of essential duties. From Girl Guides and Boy Scouts to children working alongside air raid wardens and the Home Guard, they effectively formed their own army of mini-helpers.

Guides collected various items such as jam jars as well as lots of money. But, as Janie Hampton's book *How The Guides Won The War* explains, they also kept up morale by singing songs in bomb shelters, which quickly became known as

Blackout Blues. They assisted families in digging their own shelters and knitted warm clothes for those who needed them. Guides helped children understand how to fit their gas masks and, as Sean Longden notes in *Blitz Kids*, they even went as far as converting canvas latrine cubicles into gas decontamination facilities.

Like the Guides, the Boy Scouts helped to build air-raid shelters and administer first aid. They would also stretcher people injured by falling bombs and unload ambulances and take patients to specific wards. Scouts would nimbly cycle at speed to deliver messages and they'd work with the firemen to put out fires. It could be horrific work, with older children collecting the bodies of those killed during the raids and seeing some appalling injuries that no level of first-aid training could patch up. But their sense of pride was evident throughout.

Since many fathers had gone to war, the children were keen to assist. Many of them had, in a sense, become the temporary heads of their households and the confidence it gave them meant they would take on life-risking, dangerous work without a second thought. Guides who had achieved their Pathfinder badges would navigate the dark streets at night and show people how they could get to a shelter – an act of kindness and selfless duty that could have resulted in them being killed or maimed



by a bomb or blast. Boys and girls were also called upon to smother or move thermite incendiary bombs. Such devices were a favourite of the Luftwaffe, and they were often dropped in batches of about 72, producing devastating fires that tore entire areas apart if left alone.

Alan Wilkin was 16 when he tackled an incendiary bomb in 1941, and he suffered permanent chest injuries as a result. His bravery was rewarded with one of Scouting's highest awards, the Gilt Cross, but he was not alone. Charity Bick was a 14-year-old civilian dispatch rider who claimed to be 16 in order to join the ARP in West Bromwich. When the town was bombed in 1940, she put out an incendiary bomb with her father but fell through the roof they were on top of and injured herself. She borrowed a bike, dodged further dangers and delivered messages to the control room. She was awarded the George Medal for bravery, becoming the youngest person to ever receive it.

Scores of children lied about their age to join the volunteer ARP (or the Civil Defence Service, as it became known) as well as the Home Guard and the armed forces. Recruiters often just turned a blind eye having been impressed by their enthusiasm and patriotism. The Home Guard became a way of training youngsters before conscription, and

the ARP's wardens appreciated having extra pairs of eyes as children clambered onto school roofs to act as spotters, sped along on bikes delivering messages from one ARP post to another, and even set up their own assistive child divisions.

At any time, their families could have been affected or their homes bombed. In their minds, though, the task at hand was the most important thing, and they would often stop at nothing to achieve their objective. The children may have had unconventional childhoods, but their involvement in the war effort helped shape their future lives.

**"SHE PUT OUT AN INCENDIARY BOMB WITH HER FATHER BUT FELL THROUGH THE ROOF THEY WERE ON TOP OF. SHE BORROWED A BIKE, DODGED FURTHER DANGERS AND DELIVERED MESSAGES TO THE CONTROL ROOM"**

## BADGES OF HONOUR

SCOUTS AND GIRL GUIDES HAD MANY ROLES DURING THE BLITZ

### MESSAGING

In order to earn a telegraphist badge, Guides were required to make their own wireless receivers and send messages in Morse code at a speed of 30 letters per minute.



### FIRST AID

Both Scouts and Girl Guides were given training in first aid to enable them to tend to people wounded by falling bombs, debris and blasts. They manned first-aid stations too.



### MECHANICS

Youngsters proved to be useful electricians and mechanics, helping maintain equipment and infrastructure. They would come to have solid knowledge of vehicles and planes.



### SPOTTING

Acting as spotters, children would help the ARP by keeping an eye out for fires and bombers. They would use whistles to alert others to the incoming danger.



### EVACUATIONS

Guides and Scouts would assist in the logically complex evacuation of youngsters to the countryside and they would be waiting to help as the children reached their destinations.



### FUND-RAISING

During Guide Gift Week in 1940, £46,217 was raised to help the war effort. Two air ambulances, a lifeboat, mobile canteens and rest huts were among the resulting purchases.



### MORALE-BOOSTING

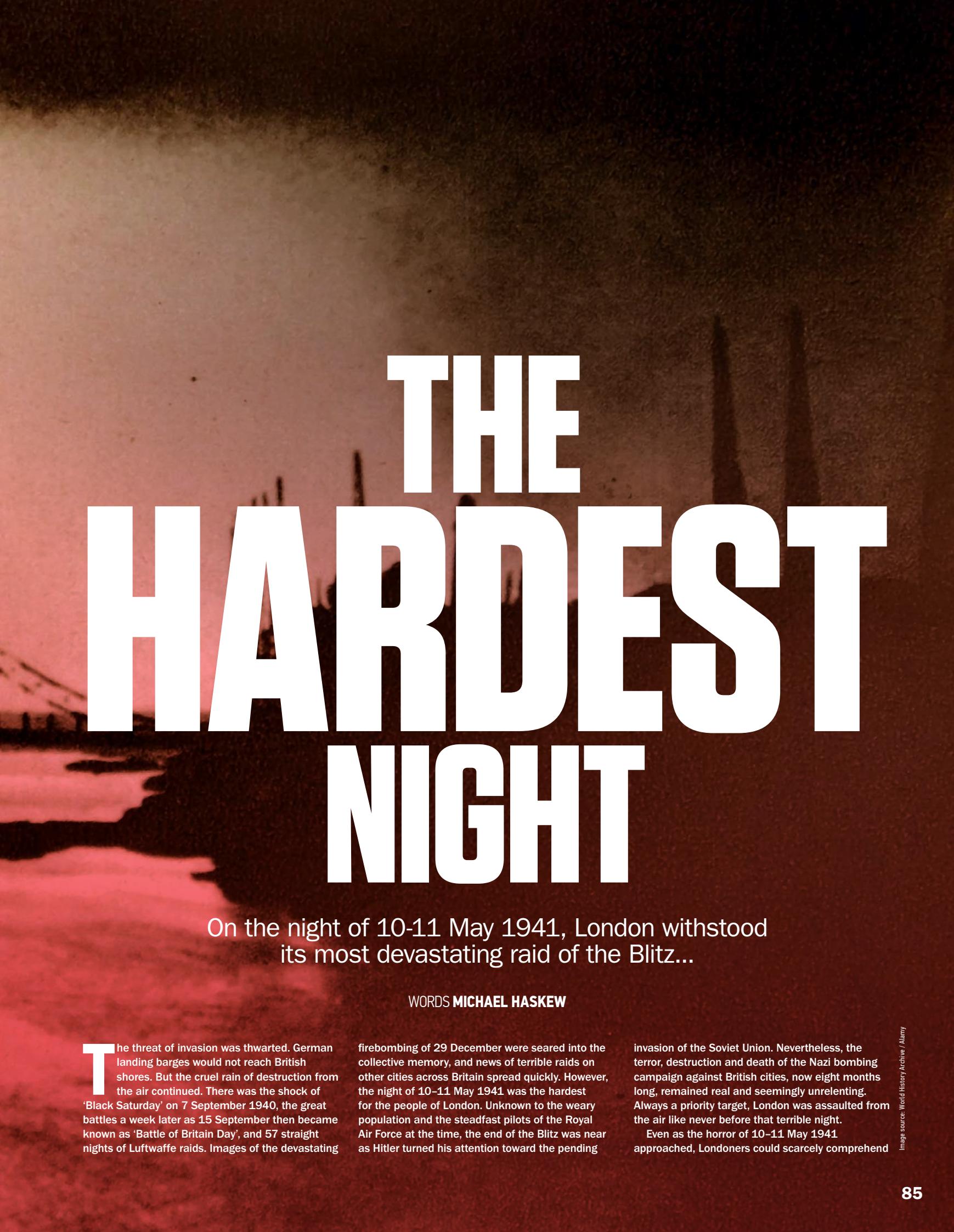
By singing songs and assisting with problems, the Guides and Scouts would help to keep people's spirits up inside air-raid shelters. They would also grow food and cook for people.

## AN ENDLESS INFERNO

*Fires along London's docks  
cast eerie light on Tower Bridge*



# THE HARDEST NIGHT



On the night of 10-11 May 1941, London withstood its most devastating raid of the Blitz...

WORDS MICHAEL HASKEW

**T**he threat of invasion was thwarted. German landing barges would not reach British shores. But the cruel rain of destruction from the air continued. There was the shock of 'Black Saturday' on 7 September 1940, the great battles a week later as 15 September then became known as 'Battle of Britain Day', and 57 straight nights of Luftwaffe raids. Images of the devastating

firebombing of 29 December were seared into the collective memory, and news of terrible raids on other cities across Britain spread quickly. However, the night of 10-11 May 1941 was the hardest for the people of London. Unknown to the weary population and the steadfast pilots of the Royal Air Force at the time, the end of the Blitz was near as Hitler turned his attention toward the pending

invasion of the Soviet Union. Nevertheless, the terror, destruction and death of the Nazi bombing campaign against British cities, now eight months long, remained real and seemingly unrelenting. Always a priority target, London was assaulted from the air like never before that terrible night.

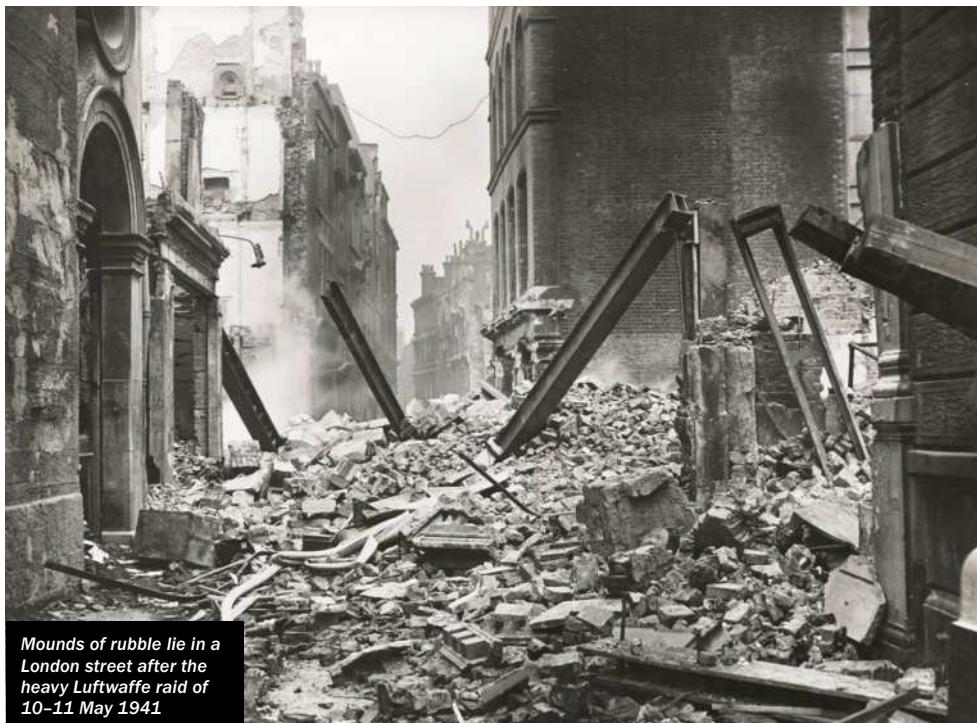
Even as the horror of 10-11 May 1941 approached, Londoners could scarcely comprehend

the devastation the Luftwaffe had wrought. Already more than 18,000 tons of bombs had fallen on the capital city. More than 41,000 men, women and children had died in raids across Britain, over half of them in London, where well over a million homes were also destroyed.

The full moon cast its pale light across the River Thames at an extremely low ebb when the air raid sirens began to wail just after 11 p.m. Searchlights stabbed the dark sky, anti-aircraft guns began their steady, rhythmic boom, and RAF night fighters took to the air. Despite these heroic defensive measures, though, the German bombers delivered their cargoes of death and destruction for seven hours, finally fading away toward their bases on the continent at 5:57 a.m. A total of 571 sorties were flown, and some Luftwaffe crews were said to have undertaken multiple missions through the night. More than 711 tons of high-explosive bombs and roughly 86,000 incendiaries plummeted like devils across the beleaguered British capital. German bombs struck both Houses of Parliament, completely destroying the House of Commons. Novelist William Sansom noted, "In the morning there was nothing left of the famous House but a charred, black, smouldering, steaming ruin. The Bar no longer stood to check intruders. The Speaker's chair was lost. The green-padded leather lines of seats were charred and drenched. The ingenious, ingenious, most typical gothic innovations of the old period had gone for ever; and with them the Chamber, its Press Gallery, its Strangers' and Ladies' galleries."

The Law Courts and Westminster Abbey were damaged. Westminster School, Westminster Hall, and Big Ben were also struck, while explosives hit Scotland Yard and virtually every main line railway station in London. Churches and hospitals blazed, and the docks of the East End, already relentlessly pounded, roared up in flames once again. Warehouses in Stepney, factories on the south side of the Thames, and all bridges across the river west of the famed Tower Bridge were hard hit. Hallam and Duchess Street in the West End were shattered as buildings constructed between the world wars were reduced to heaps of debris and several others dating to the Edwardian Period were destroyed. A lone 1,000-pound (454-kilogram) high-explosive bomb detonated at Great Titchfield Street, killing a female Air Raid Precautions (ARP) warden. Flames swiftly spread, engulfing buildings on New Cavendish and Weymouth streets, but the overstretched fire fighting units were unable to reach the area for hours. At the British Museum, 250,000 books were damaged beyond repair.

A nine-year-old boy whose family had recently returned to their home in Barnett, North London, following an April lull in the Blitz raids, recalled, "The various blasts blew the curtains in and most of the windows out, some ceilings out and plaster came in. My sister and I, who were sleeping in a double bed in a downstairs rear room, were still asleep beneath curtains, dust and plaster... Mum had been standing in the doorway to our room and was narrowly missed by the front door, which was blown in. I can still smell the cordite, explosions, plaster, dust and fractured sewers...." The London Fire Brigade later reported that 2,136 fires had erupted. Many of them raged out of control, and the shallow depth of the Thames compounded difficulties in pumping water to fight the flames that gutted 700 acres of the city, more than twice the area of the Great Fire of London of 1666. Another 5,000 houses and flats were destroyed and at least 12,000 more





St Thomas' Hospital was destroyed during the Blitz. Big Ben and Parliament stretch beyond

Londoners added to the throngs of homeless. Contemporary estimates of the property damage topped £20 million.

However, that was nothing compared to the toll in lives. Approximately 1,436 Londoners were killed and 1,800 injured. Islington and Finsbury suffered mightily, the former hit by 36 high-explosive bombs and at least 16 incendiaries. 24 people were killed when bombs devastated homes along Corsica Street, Elia Street, Liverpool Road, Errol Street and Roman Way. Twin 11-year-old brothers were among 18 dead at Holford Square in King's Cross. The Luftwaffe lost 12 planes in the raids of 10–11 May, as anti-aircraft guns fired more than 4,500 rounds at the attackers. There were no losses among the 24 Royal Air Force night fighters that rose to seek out and engage the enemy aircraft.

After daylight, John Colville, secretary to Prime Minister Winston Churchill, ventured into the streets in the heart of London. He later wrote, "I walked out into Downing Street at 8:00 a.m. on my way to the early service at Westminster Abbey. It was really a sunny day with blue skies, but the smoke from many fires lay thick over London and obscured the Sun. Burnt paper, from some demolished paper mill, was falling like leaves on a windy autumn day. Whitehall was thronged with people, mostly sightseers but some of them Civil Defence workers with blackened faces and haggard looks. One of them, a boy of eighteen or nineteen, pointed towards the Houses of Parliament and said, 'Is that the Sun?' But the great orange glow at which we were looking was the light of many fires south of the river."

For three consecutive days, the flames lit London's skies, and the massive pall of thick, black smoke hung like a crepe funerary adornment.

Rail service was disrupted for several weeks, and clusters of rescue workers laboured for seemingly endless hours to save those still alive beneath tons of rubble and to recover the bodies of the dead.

Sansom noted that the senses were assaulted and destruction "was noticeable in the morning air... an invisible veil of plaster-dust hung its odour over the air of every street, bombed or not bombed, for Westminster was impregnated with it".

Although German bombers would, in fact, return as WWII dragged on, the night of 10–11 May 1940, would remain for many citizens of Britain's capital the most heart wrenching of the arduous bombing campaign – indeed of the entire war – and some historians mark the date as the official end of the Blitz. Had they known that this was the last 'major' Luftwaffe raid of the terror bombing campaign, hardened Londoners might have taken some cold comfort. As it was, they coped with the devastation, mourned and buried their dead and remained committed to the eventual victory over Nazi tyranny.



Prime Minister Winston Churchill surveys Luftwaffe bomb damage in South London

**"...IN THE MORNING THERE WAS NOTHING LEFT OF THE FAMOUS HOUSE BUT A CHARRED, BLACK, SMOULDERING, STEAMING RUIN...."**

WILLIAM SANSOM

# HITLER'S HOLIDAY TOUR FROM HELL

WORDS NICK SOLDINGER

How a travel guide gave the Nazis a steer on which areas of Britain should be bombed for being beautiful

**O**n 13 May 2016, builders working at a former junior school in Bath were digging up what had once been a children's playground when they came across something sinister. As they cleared the earth away from the metre-long metal cylinder it became clear that what they were looking at was a terrifying relic from a darker age: an unexploded, 250-kilogram (551-pound) German bomb that had been dropped in April 1942. A bomb that still had the potential to obliterate anything within a 50-metre radius.

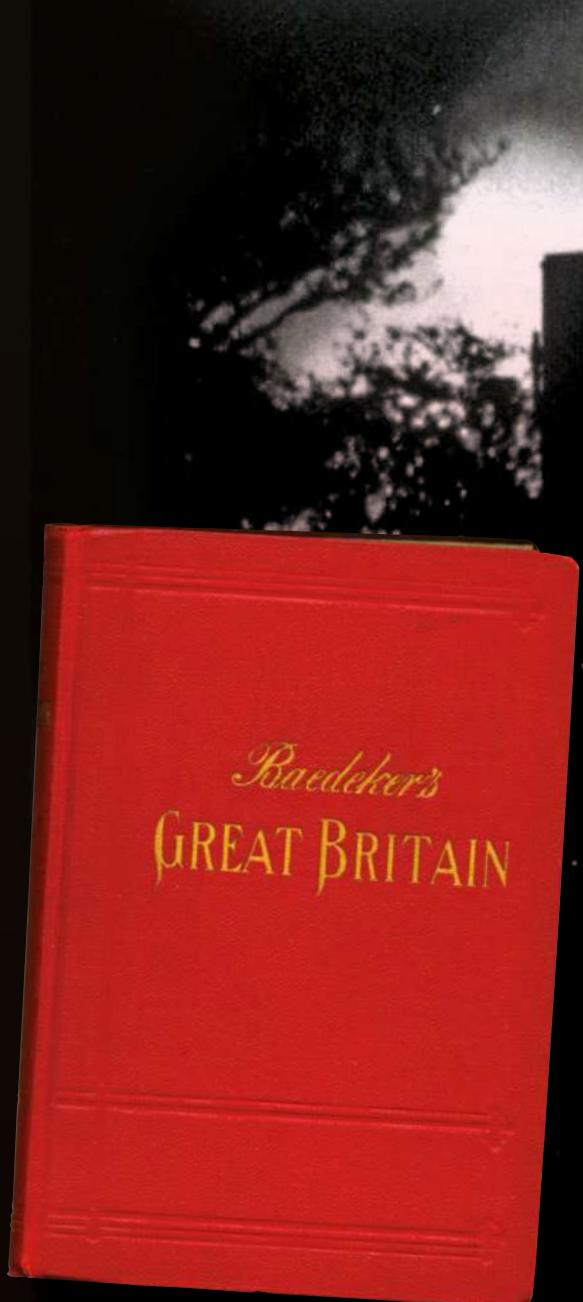
Army explosive experts dealt with the bomb safely, but its discovery unearthed a story that had been buried for nearly 75 years – the events of the so-called Baedeker raids. The Blitz Hitler's Luftwaffe unleashed against Britain during WWII is well known for targeting, as it did, large metropolitan areas of military or industrial importance. London was pounded relentlessly because of its docks; Coventry suffered one of the worst attacks of the entire war due to its aircraft plants; and Newcastle was a valuable target with its shipyards. But what was so special about Bath? After all, the city hadn't been of military significance since Roundheads and Royalists had clashed there in 1643.

So why did Hitler – who (by the time that bomb was dropped) was fighting a gargantuan war against the Soviet Union – commit vital resources to an attack on a place that was better known for its tea rooms than its military targets? The answer lies over 1,400 kilometres to the east in the German city of Lübeck on the Baltic Sea coast...

Britain's RAF had first bombed Germany in an audacious, morale-raising raid on 25 August 1940. Berlin was the target, and although it had caused scant damage, a huge psychological blow had been dealt. Despite Luftwaffe boss Hermann Göring's boast just a year before that not one enemy bomb would fall on German soil, it had been proven that the country wasn't immune to air attacks.

Not that those attacks would initially amount to much. When the war started, the RAF had just 280 light bombers made up of planes such as the Whitworth Whitley, which had carried out the Berlin raid. These planes were ill-suited to the key role that British Prime Minister Winston Churchill had dreamt up for Bomber Command.

With Britain's army almost swept into the sea at Dunkirk, and without a foothold in continental Europe, aerial bombing was – Churchill believed



Above: Baedeker's famous red-covered guides were a common sight on bookshelves in both Germany and Britain throughout the 19th and 20th centuries

– Britain's best hope of hitting back at the Third Reich. "The [RAF's] fighters may be our salvation," he declared in 1940 shortly after Spitfires and Hurricanes had seen off the potential of a German invasion during the Battle of Britain, "but the bombers alone provide us with the means of victory." Germany, he'd decided, could be blasted into submission.

To complete the task, a new breed of heavy bomber was rushed into production, most noticeably the Avro Lancaster, and, in 1942, a new ruthless supremo appointed as head of Bomber Command: Air Chief Marshal Arthur Travers Harris, the man history would remember as 'Bomber' Harris. Churchill now had the right machines to flatten Germany, and in Harris he had a man who would get the job done. Now all he needed was official licence to pursue a policy of total war and, on 14 February 1942, the British Government issued the Area Bombing Directive to the RAF, giving it the mandate to go after civilian targets as a matter of policy. Almost immediately, Harris set about turning Churchill's vision of laying waste to Germany into a reality. He decided Lübeck was where he'd test out his new ideas about strategic area bombing first.

"WHY DID HITLER – WHO WAS FIGHTING A  
GARGANTUAN WAR AGAINST THE  
SOVIET UNION – COMMIT VITAL RESOURCES  
TO AN ATTACK ON A PLACE THAT WAS  
BETTER KNOWN FOR ITS TEA ROOMS THAN  
ITS MILITARY TARGETS?"



*As well as the many homes and schools destroyed, the York Guildhall was set ablaze during the raid on the city*

Although a port, Lübeck was a cultural centre and thereby of little military significance. As such it was barely defended and Harris saw in the elegant town, famed for its medieval architecture, a soft, low-risk target. The date of the raid was set for the night of 28 March 1942, when seasonal and climatic conditions were favourable. A full moon loomed, so the waters that fed the city – the Elbe-Lübeck Canal, the Trave and Wakenitz rivers – would all be lit up like landing strips, while the seasonal hoar-frost would ensure clear visibility. Lübeck, quite literally, could not be missed.

As Harris later noted coldly in his memoirs, "Lübeck was the first German city to go up in flames. It was not a vital target, but it seemed to me better to destroy an industrial town of moderate importance than to fail to destroy a large industrial city. The main object of the attack was to learn to what extent a first wave of aircraft could guide a second wave to the aiming point by starting a conflagration: I ordered a half an hour interval between the two waves in order to allow the fires to get a good hold before the second wave arrived. In all, 234 aircraft were dispatched and dropped 144 tons of incendiaries and 160 tons of high explosives. At least half of the town was destroyed, mainly by fire. It was conclusively proved that even the small

force I had then could destroy the greater part of a town of secondary importance."

With so few defences, some of Harris' bombers had attacked from 600–2,400 metres lower than they'd usually bomb from – devastating the town. Blockbuster bombs – powerful enough to shake the roofs off of houses – were dropped by the first wave, starting the initial fires, while incendiary bombs were then scattered over the roofless buildings by the second wave, setting the city ablaze. Around 62 per cent of all buildings in Lübeck were affected by the bombing, causing around 1,000 casualties and 15,000 people to lose their homes.

"The damage is really enormous," Nazi Reich Minister of Propaganda Joseph Goebbels noted in his diary a few days after the attack. "I've been shown a newsreel of the destruction. One can well imagine how such a bombardment affects the population. We can't get away from the fact that the English air raids have increased in scope and importance. It's horrible. If they can be continued on these lines, they might conceivably have a demoralising effect on the population."

With private concerns about how the Lübeck raid and others like it might wear down the resolve of the German population, the Nazis began plotting retaliatory attacks. Of course, Germany had already tried bombing Britain into submission once before. Its nine-month Blitz of the country had brought widespread urban destruction but had fundamentally failed to break morale. The whole costly, seemingly pointless exercise had eventually come to an end in May 1941, when the Luftwaffe – in the build-up to the following month's invasion of



Above:  
Air Chief  
Marshall 'Bomber'  
Harris, who ordered  
the attack on Lübeck, the raid that  
prompted the Baedeker Blitz

the Soviet Union – had the vast bulk of its resources diverted eastward.

By early 1942, what remained of Hitler's air force in the west was no longer in a position to mount a sustained, large-scale aerial offensive. It could, however, launch as Goebbels put it, "Rigorous reprisal raids [on] centres of culture, especially those with little anti-aircraft defences."

The first city to be attacked was the quiet cathedral city of Exeter in Devon, when German bombs smashed into it on the night of 23-24 April. Up until then Exeter's inhabitants had been largely untouched by the war. They now found themselves on the front line with 73 civilians killed and 20

## "BOMB EVERY BUILDING IN BRITAIN MARKED WITH THREE STARS IN THE BAEDEKER GUIDE"

- Baron Gustav Braun von Stumm

# SAVED FROM THE BONFIRE

WHY THE BAEDEKER GUIDES WERE SO REVERED BY THE NAZIS AND HOW THEY WERE USED FOR IDEOLOGICAL ENDS

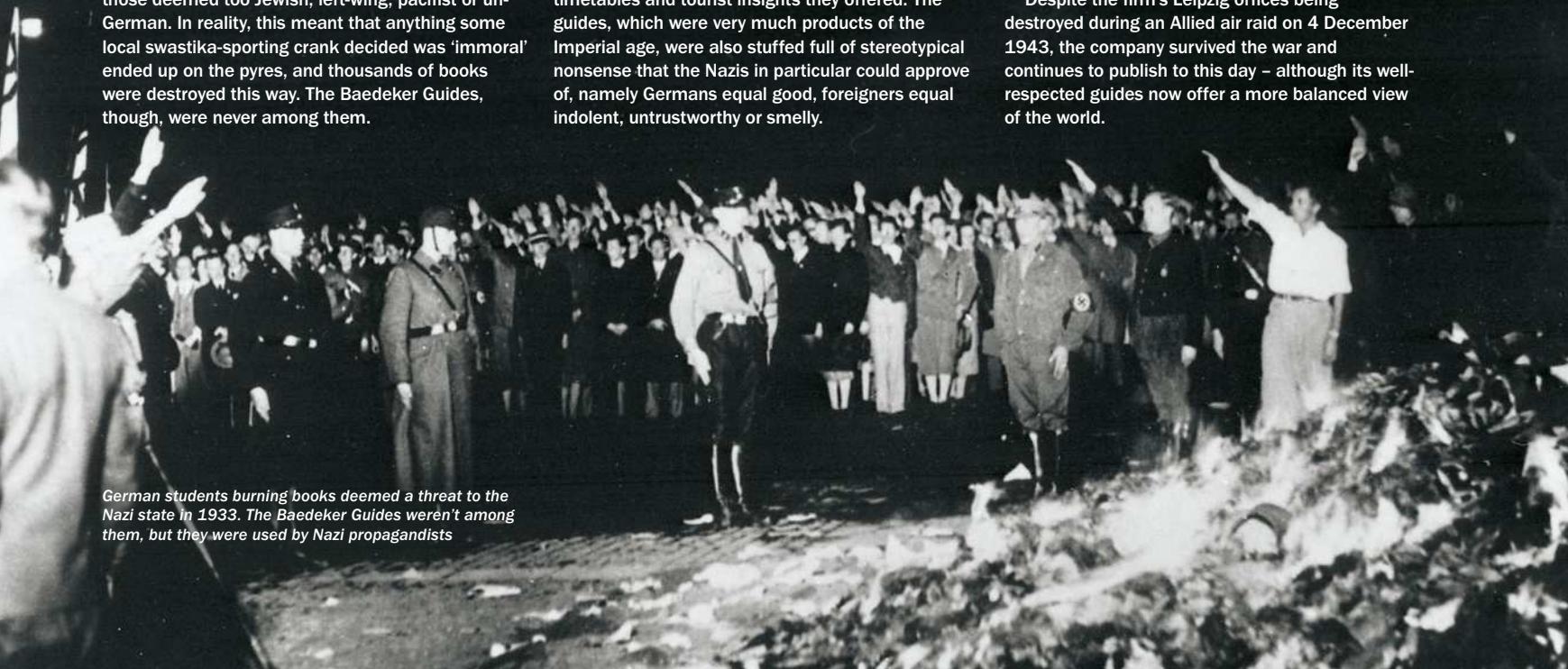
One of the most powerful images associated with the Nazi era is that of public book burnings. Organised by German students, they saw gangs of young fanatics flinging works of 'subversive' literature onto giant bonfires during dramatic night-time ceremonies. The works torched were those deemed too Jewish, left-wing, pacifist or un-German. In reality, this meant that anything some local swastika-sporting crank decided was 'immoral' ended up on the pyres, and thousands of books were destroyed this way. The Baedeker Guides, though, were never among them.

These guides – named after Karl Baedeker, the Prussian publisher who founded the brand and passed it down to his sons – had been around since 1827, and by the rise of National Socialism were very much part of German national life. Their popularity, though, wasn't just down to the maps, timetables and tourist insights they offered. The guides, which were very much products of the Imperial age, were also stuffed full of stereotypical nonsense that the Nazis in particular could approve of, namely Germans equal good, foreigners equal indolent, untrustworthy or smelly.

In fact, the Nazis not only rubber-stamped the Baedeker Guides but actually commissioned several, including a guidebook for the German army destined to occupy Poland, while helping to 'edit' others as they saw fit. They also restricted to whom the various guides could be sold.

Despite the firm's Leipzig offices being destroyed during an Allied air raid on 4 December 1943, the company survived the war and continues to publish to this day – although its well-respected guides now offer a more balanced view of the world.

German students burning books deemed a threat to the Nazi state in 1933. The Baedeker Guides weren't among them, but they were used by Nazi propagandists



seriously injured. It was a menacing foretaste of what was to come.

The day after the first Exeter raid, German propagandist Baron Gustav Braun von Stumm released a statement declaring it a success and warning that the Nazis would now, "Go out and bomb every building in Britain marked with three stars in the *Baedeker Guide*." This reference to the popular German travel guides of the same name made for a neat sound bite that captured the public's imagination. It also infuriated von Stumm's boss, Goebbels, who was keen to sell the British attacks as acts of terrorism, while the German response was to be spun as even-handed and justified – not a deliberate attempt to destroy Britain's cultural treasures. But that's exactly what the raids were intended to do, and the phrase 'The Baedeker Blitz' was born.

On 26 April, after Harris launched another devastating raid – this time against the Baltic port of Rostock – Hitler addressed the Reichstag in Berlin's Kroll Opera House, promising retribution. "If in England the idea should prevail of carrying on air warfare against the civilian population with new methods," he thundered, "then I should like right now to state the following to the whole world... May [Churchill] not again wail and whimper if I am now forced to give a response that will bring much suffering to his own people. From now on, I will retaliate blow for blow until this criminal falls and his work dies."

He was true to his word, and that same night Bath was hit. The city, which was completely undefended, was soon set ablaze. The raid killed 417 people and left 19,000 buildings destroyed or damaged including the city's splendid Georgian Assembly Rooms.

"BY THE WAY – HOW MANY STARS DOES BAEDEKER GIVE THE ROYAL ACADEMY?"



The Baedeker Blitz caught the public's imagination both in Germany and Britain, where it was soon mocked by newspaper cartoonists

# GUIDE TO DESTRUCTION

HOW THE GUIDE MAY HAVE HELPED HITLER DECIDE WHICH CITIES TO BOMB...

Of all the countries covered by the Baedeker Guides, Britain fared the best. The reason was three-fold. Firstly, the original guides were inspired by a series of travel books produced by English publisher John Murray, which had pioneered the genre. Secondly, Britain, as the greatest power of the Victorian age, was seen as the cultural benchmark for other countries – a nascent Germany included – to aspire to. Finally, by the 20th century Britain was the second-biggest consumer of Baedeker Guides after Germany, with many translated into English. In fact, the phrase 'baedekering' even briefly

entered the English language as a term for travelling through a country in order to write about it.

The books included maps and detailed information on routes, accommodation and attractions and from 1846 onwards used an innovative star system to rate them – making them very much the first modern tourist guidebooks. It was this star system that Baron von Stumm was referring to when he described how the Nazis would now, "Bomb every building in Britain marked with three stars in the *Baedeker Guide*." Here's what the 1937 *Guide To Great Britain* had to say about three of the cities the Nazis attempted to flatten.

## BATH 25-26 APRIL 1942

"The chief winter spa in Britain is a handsome city of 68,000 inhabitants... and is unrivalled among provincial English towns for its combination of archaeological, historic, scenic and social interest. It is a city of crescents and terraces, built in a substantial Palladian style of 'Bath Stone' and rising tier above tier to a height of about 6,000 feet. Bath owes its external appearance largely to the architect John Wood and is an admirable specimen of 18th-century town planning."



**DAMAGE** APPROXIMATELY 417 KILLED, AND 19,000 BUILDINGS DESTROYED

## NORWICH 27-28 APRIL, 8-9 MAY 1942

*Below: A church service is held in the bombed-out remains of Norwich Cathedral, damaged during the April air raids*

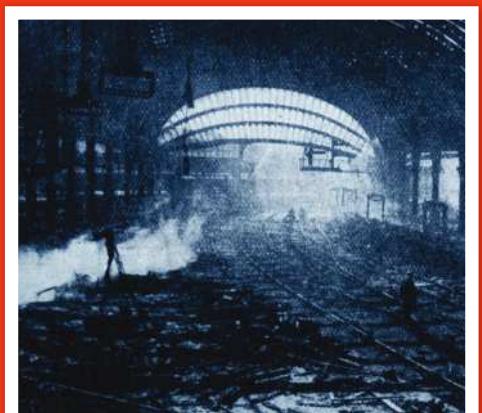
"The cathedral preserves its original Norman structure more than any other English cathedral. It possesses numerous other interesting buildings, too. Overall, Norwich is charming, beautiful and especially admirable." As well as going into detail about the many delights Norwich can offer, it also includes a detailed map of the city showing the position of its Norman castle and cathedral, as well as its 15th-century Guildhall. All of these were damaged in the first raid on the night of 27-28 April.



**DAMAGE** MORE THAN 850 KILLED OR WOUNDED, OVER 20,000 HOUSES DESTROYED

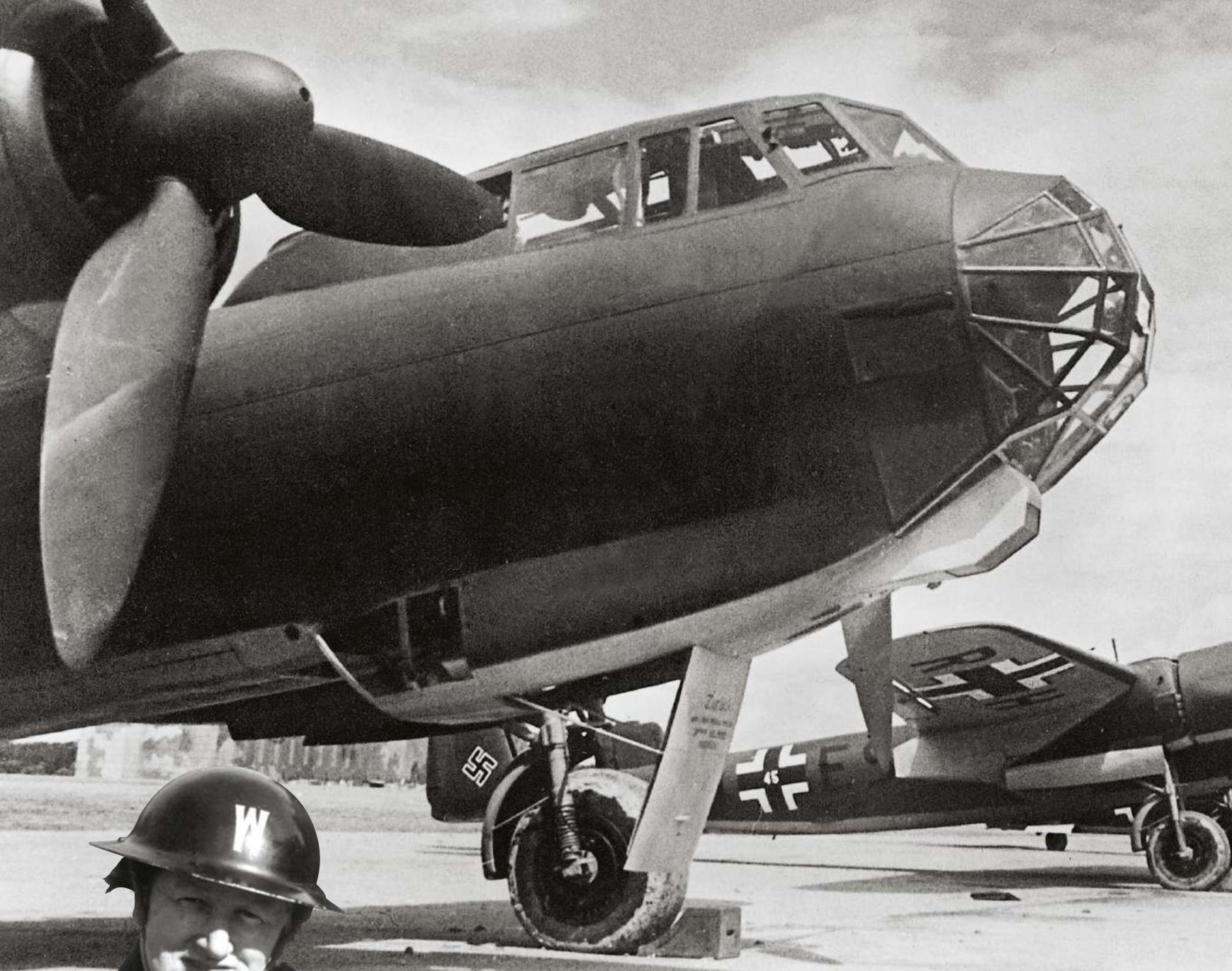
## YORK 28-29 MAY 1942

"An ancient city with 84,800 inhabitants and the capital of Yorkshire. It is situated on the River Ouse, in the centre of the wide and fertile Vale of York. The ancient walls are still standing, many of the streets are crooked and narrow, and there are quite a few quaint, old houses." The accompanying map of the city shows the magnificent 15th-century Guildhall, the Victorian railway station, and a medieval church, all of which were set ablaze during the raids.



*Right: York railway station was hit during the raid, as was the 10.15 a.m. train from King's Cross to Edinburgh, which was laden with passengers*

**DAMAGE** 92 KILLED, HUNDREDS WOUNDED, 9,500+ BUILDINGS DAMAGED OR DESTROYED



**"HAVING UNLEASHED THEIR BOMBS, THE LARGELY UNOPPOSED GERMAN BOMBERS NOW STRAFED THE STREETS WITH MACHINE-GUN FIRE AS TERRORISED CIVILIANS FLED TO THE SHELTERS"**

As with the Exeter raids, this attack was largely carried out by 30-40 Dornier 217 heavy bombers from Luftflotte 3, each one capable of carrying a bomb payload in the region of 3,000 kilograms. As before, two sorties were flown, with each raid separated by two to three hours. It was a pattern of terror and destruction that would be followed throughout the Baedeker Blitz. Goebbels, writing in his diary after the raids, noted that Hitler intended to, "Repeat these raids night after night until the English are sick and tired of terror attacks, and he shares my opinion absolutely that cultural centres, health resorts and civilian centres must be attacked... There is no other way of bringing the English to their senses. They belong to a class of human beings with whom you can only talk after you have first knocked out their teeth."

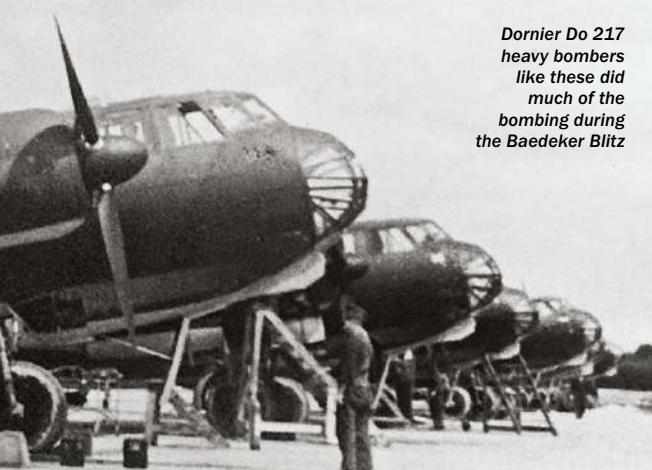
The following night it was Norwich's turn to be bombed. Again, it was a city with next to no means of defending itself and one that represented no real military value. More than 90 tons of bombs smashed into the city, killing or wounding 850 people and destroying nearly 20,000 houses.

Eyewitness John Alpe was a seven-year-old boy at the time but vividly recalled the raid many years later for the BBC's WW2 People's War project.

"For me it started at around 11.30 p.m. when I was awakened by the voice of my father, a WWI veteran, loudly shouting, 'Bombs, bombs!' The family was at that instant in their beds, presumably sleeping. That is, mum and dad, two elder sisters and me. I was youngest and my dear mum must have grabbed me from bed and rapidly descended the stairs, entered the living room then took a restricted flying dive with me under our dining table. We were all just in time. The first wave of Luftwaffe aircraft were dropping their high explosive bombs,

**"MAY THIS MAN NOT AGAIN WAIL AND WHIMPER IF I AM NOW FORCED TO GIVE A RESPONSE THAT WILL BRING MUCH SUFFERING TO HIS OWN PEOPLE. FROM NOW ON, I WILL RETALIATE BLOW FOR BLOW UNTIL THIS CRIMINAL FALLS AND HIS WORK DIES"**

Adolf Hitler on Churchill



Dornier Do 217 heavy bombers like these did much of the bombing during the Baedeker Blitz

## BATTLE OF THE BEAMS

HOW RADIO WAVES GUIDED BAEDEKER BOMBER CREWS TO THEIR TARGETS IN THE DARK. AND HOW BRITAIN MANAGED TO STOP THEM...



The British first learned of the knickebein guidance system after discovering intel on a downed German bomber in 1940

To help Luftwaffe crews navigate over Britain's blacked-out countryside at night, German engineers came up with something called knickebein. British intelligence first became aware of it when a German bomber downed in 1940 was searched and intel on board made mention of the curious word. Investigations revealed that knickebein ('crooked leg') was the codename for a new system that used radio waves to guide German pilots to their targets. The idea was simple: a single radio wave (or beam) was transmitted at Britain from mainland Europe. Using an adapted version of a tracking device known as the Lorenz system - used pre-

war by commercial airlines to help guide planes into airports - the beam from a single transmitter would guide the bombers towards their target. A second beam, transmitted from another part of Europe, would cross the first beam at the point where the bombs were to be dropped. All a pilot need do was follow the first beam until he reached the intersection with the second beam. Used throughout the Blitz and during the Baedeker raids, this system and later higher-frequency versions were eventually rendered useless by British countermeasures, which involved transmitting rogue beams to baffle German pilots.

softening up the city for the later incendiary attack to take over with their devastating fires..."

York became the next target and was attacked the following night. By this stage of the war air-raid sirens had been sounded nearly 800 times across the rooftops of this ancient northern city; almost all had been false alarms. When they screamed out again on the night of 28 April, many of the city's inhabitants rolled over in bed and tried to go back to sleep. It was only when the streets started to explode around them that the vast majority began to run for their lives.

Having unleashed their bombs, the largely unopposed German bombers now strafed the streets with machine-gun fire as terrorised civilians fled to the shelters. The raid lasted 90 minutes and at the end of it over 300 lay dead or wounded, including five nuns, tragically killed when the roof of the 17th-century convent they were in collapsed. A further 9,500 buildings were damaged, including the 15th-century Guild Hall, a medieval church and numerous schools.

No city in Britain, no matter how inconsequential to the country's war effort, could now consider itself safe from German attack. But a week later, it was Exeter - the original Baedeker target - that found itself bombed again. This time, though, the city

would not escape so easily. On the night of 3-4 May 1942, German bombers attacked for the third time in ten days, dropping incendiary bombs and spewing machine-gun fire into the streets.

"It was a night of terror for the Exeter people," recorded German bomber pilot Ernst Von Kugel after the raid. "When I approached this town the bright reflections guided me. Over the town I saw whole streets of houses on fire, flames burst out of windows and doors, devouring the roofs.

"People were running everywhere and firemen were frantically trying to deal with flames," he continued. "It was a fantastic sight - no one who saw it will forget the greatness of the disaster. We thought of the thousands of men, women and children, the victims of our deadly visit, but we thought of our Führer [Adolf Hitler] and the command he gave: 'Revenge'. With cold calculation we carried out our orders."

For those on the ground, the scenes they encountered were far from fantastic. Eyewitness Brian Pollard was 18 years old at the time.

"We were woken by the air raid siren. Hearing the sound of explosions, we thought it wise to dress and seek shelter in the basement; but we didn't get that far. The explosions seemed to come very near and we had a shower of incendiary bombs.

The latter were 12-15 inches [30-38 centimetres] long and two-three inches [five-seven centimetres] in diameter. They contained magnesium and, on contact, burned white hot and spat fragments.

"Two such bombs came through the windows of the first-floor front bedroom, already shattered by the explosions. We tried dousing them with water but the furnishings were soon blazing. I discovered that more incendiary bombs had come through the roof and the attic was well alight, and also the buildings opposite and adjacent. There was nothing for it but to leave.

"The nearest public air raid shelter was 500 yards away," he continued. "It was hazardous and not without incident, but by helping each other we reached the shelter, as did many others. But it was more frightening inside the shelter than outside it, where at least the percussion of the explosions was more dispersed and you could see how near or far the falling masonry was. Burning buildings close by made it very hot inside the shelter, and the noise was coming from everywhere.

"Then came machine-gunning. The static tanks were perforated and several inches of water entered the shelter. Eventually, the planes retired, and although the fires continued to burn, people began to move. Then dawn came."



When Pollard and his family emerged from the darkness they discovered their beautiful city was now a smoking, charred ruin. Over 1,500 houses had been destroyed, with a further 2,700 seriously damaged. A further 400 shops, 150 offices, 50-plus warehouses and 36 pubs and clubs had also vanished in a single night. As well as killing 156 civilians and injuring 563 more, 30 acres of the city were devastated, with many of its ancient buildings smashed or incinerated. Its 15th-century cathedral had been badly damaged, while many of its Tudor, Georgian and Victorian landmarks were lost forever. The city library, meanwhile, had been reduced to a bonfire of smouldering embers along with an estimated 1 million books and historic documents. It would take Exeter more than 20 years to recover.

Of all the Baedeker raids, this one on Exeter was the most destructive. "Exeter was the jewel of the West," the English-speaking Nazi propagandist Lord Haw-Haw told British listeners during a broadcast on 4 May. "We have destroyed that jewel and the Luftwaffe will return to finish the job."

The Luftwaffe did indeed return – on 8–9 May to bomb Norwich in a raid that was significantly less effective thanks to radar and fighter cover.

## "EXETER WAS THE JEWEL OF THE WEST. WE HAVE DESTROYED THAT JEWEL AND THE LUFTWAFFE WILL RETURN TO FINISH THE JOB"

- Lord Haw-Haw

While the last raid most commonly associated with the Baedeker Blitz took place on 6 June, when Canterbury (described in the *Baedeker Guide To Great Britain* as, "The ecclesiastical metropolis of England.") was bombed for the third time in a week, the worst of the raids on the city took place on 1 June and saw 3,600 incendiary bombs and 130 high-explosive bombs dropped on it in an attempt to destroy its historic cathedral. In the event, the 11th-century architectural masterpiece survived thanks to firewatchers throwing hundreds of incendiary devices from its roof. Much of the city's medieval centre was, however, destroyed. Although the Luftwaffe continued to make indiscriminate

smaller-scale raids on British towns, by the summer of 1942 the Baedeker Blitz was over. With the conflict against the Soviet Union taking on epic proportions, Hitler's already overstretched war machine could ill afford to commit precious resources to an aerial bombing campaign that seemed to have so little effect on the morale of the people it was supposedly terrorising.

Britain had endured the Blitz. It had now endured the Baedeker raids, which had killed 1,637 civilians and destroyed or damaged over 50,000 homes as well as many buildings of cultural significance. Yet the spirit of its people seemed stronger than ever. As a tactic, the area bombing of a civilian population had been proven to be largely ineffective. The British knew this better than anyone, and yet, under Churchill, doggedly persisted with the practice until the end of the war. In fact, a disproportionate amount of Britain's war effort was given to Bomber Command as it absorbed shockingly high casualty rates (around 50 per cent) just so that it could mete out what amounted to an increasingly murderous punishment of Germany's people. This policy of annihilation would reach its dreadful climax over Dresden in February 1945.

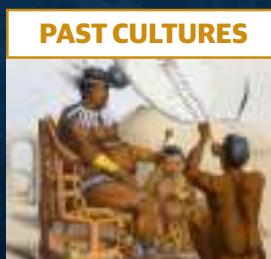
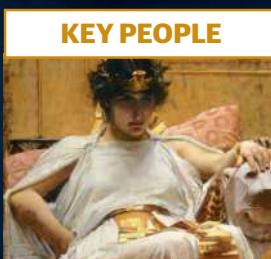
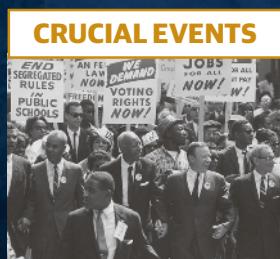
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# TRAGEDY ON THE TUBE

No bombs fell on Bethnal Green on 3 March 1943, yet it was the scene of the deadliest civilian event of the war on British soil

WORDS VICTORIA WILLIAMS

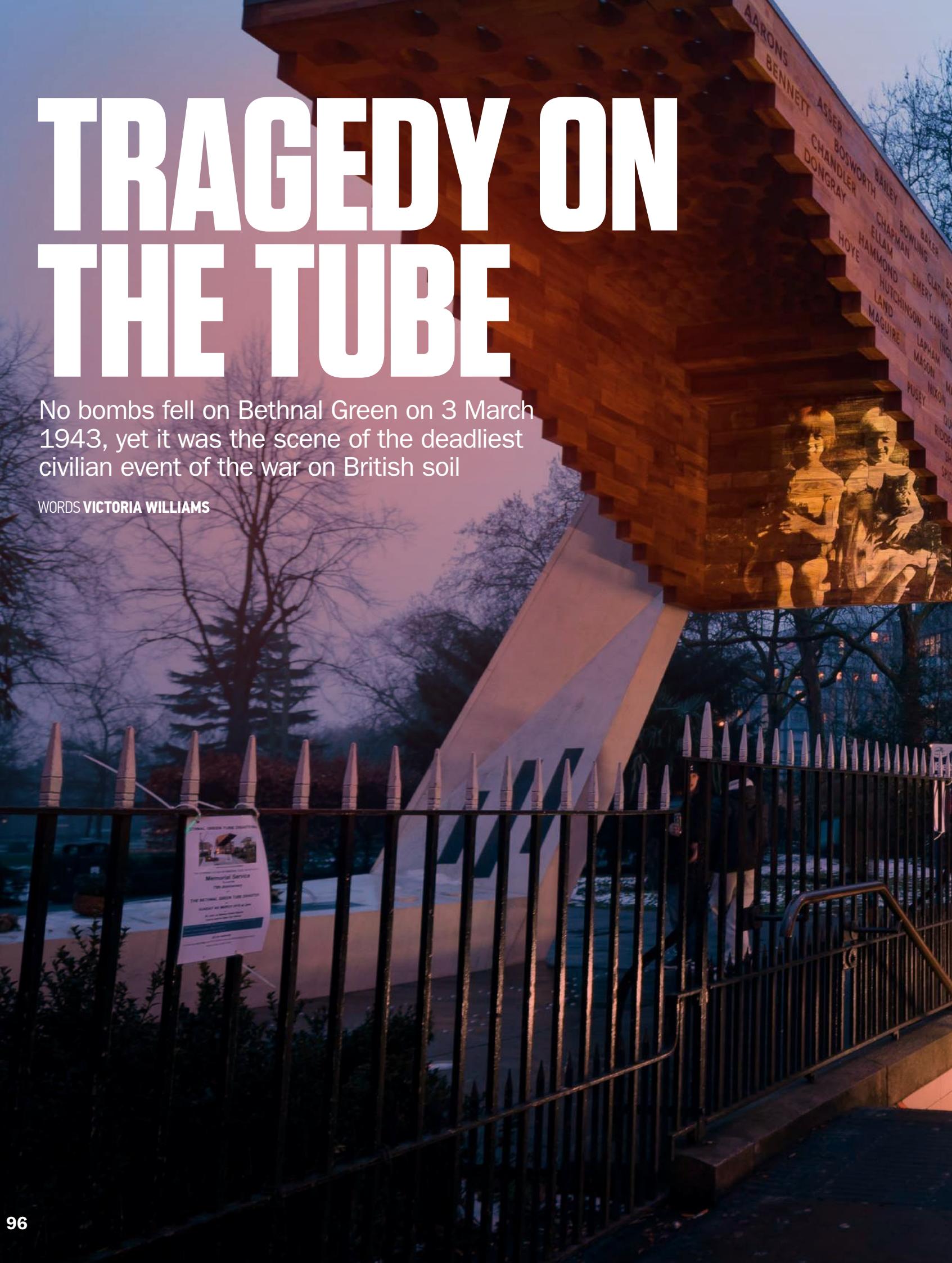






Image source: Alan

**D**eep below the bomb-scarred surface, London's underground stations together provided shelter for as many as 180,000 people who lacked access to – or trust in – street shelters or private bunkers. Bethnal Green was one of the largest communal shelters in the area, able to fit up to 10,000 people at a squeeze during the Blitz. Bedding and valuables were brought down, and people waited together until air raids passed. 5,000 bunk beds were set up for overnight stays – those without a ticket for a bunk bed were left with a choice between the platform floor or a tunnel. With so many people spending time in the station, a small community formed. There was a doctor's surgery and first aid post, a tiny branch of the Bethnal Green Public Library, a canteen and even a theatre set up in a tunnel.

Fewer people were regularly using the shelter in 1943, but it was still the destination for many when an alarm was raised. At this point the station's construction was still unfinished. The local council had raised safety concerns around the station's single entrance. The Town Clerk wrote in a 1941 letter that in the event of a sudden airstrike, there was "a grave possibility that... there would be an extremely heavy flow of persons seeking safety in the Tube Shelter... and a large number would be precipitated down the staircase". The government denied three requests for permission and funds to make improvements on the grounds of cost.

By 1943 the residents of Bethnal Green were used to the wails of the sirens and the journey to the shelter; this side of the city was home to most of London's docks and factories, as well as warehouses full of wartime supplies, making it a target for airstrikes. Something was different on the evening of 3 March, though. A siren sounded at 8:17 p.m., followed ten minutes later by an unfamiliar whoosh and a series of bangs. Unbeknown to locals, tests were being conducted on new anti-aircraft rockets in nearby Victoria Park. Berlin had been heavily bombed days before and people feared retaliation, so the sound of the anti-aircraft devices caused alarm and conjured thoughts of approaching bombers. People soon began to leave their homes and head through the rain to the tube station for shelter. Following instructions to deposit all passengers at the nearest shelter when a siren sounded, three full buses emptied outside the station and the passengers joined the throng.

The station entrance was unmanned; a police officer was always present at the station during the frequent bombing of 1940 and 1941, but fewer attacks and a drop in police numbers due to conscription meant that by this time the post was often empty. With no one to control the flow, people hurried to claim a spot at the station. The rain had made the uneven station steps wet and slippery. Due to blackout laws, a single low-watt bulb lit the narrow stairwell. In the dim light it was hard to see where one step ended and the next began; there was no white paint marking the edges like in other stations. As people rushed down to the platform, a woman carrying a young child tripped and lost her footing just before she reached the first landing. There was no handrail and, unable to steady herself, she fell. An elderly man was pulled down with her, and before they could get up the surging crowd behind them began to fall too. Those waiting at the entrance were impatient to get in and didn't understand the hold-up, so they pressed on. In a matter of seconds, hundreds of people fell.

Trapped under the bodies of others and crushed by the force of the crowd, many quickly succumbed to compression and asphyxiation.

When wardens came up from the station's booking hall, alerted by the shouts and screams, it was already too late for most of the victims. The best they could do was search for survivors among the pile of bodies. Above ground, the alarm was raised and police began to arrive. They cleared the crowd waiting at the entrance and tried to pull people from the top of the pile on the staircase. More police officers entered through one of the tunnels. To avoid causing a panic, they made no mention of the incident as they passed the people safely settled on the platform. 60 police officers, along with rescue services, members of the Home Guard and volunteers, spent the next three hours extricating casualties from the pile. As they pulled more and more bodies from the dark stairwell, the full scale of the disaster was revealed. In total 173 people – 27 men, 84 women and 62 children – were found dead. As many as 90 others avoided fatal



Image source: Getty Images



asphyxiation but suffered significant injuries. These survivors were encouraged to head to the nearest hospital, but some were too busy searching for friends and relatives to attend to their own injuries. Remarkably, one of the last people pulled from the staircase was a seven-year-old girl who not only survived but escaped without serious injury.

Censored reports of the event were published in the press several days after the disaster, with the exact location and details omitted. Rumours began about the cause. Some blamed mass panic, but others had more sinister theories and believed someone had started the crush deliberately. In the face of mounting public pressure, an enquiry was launched. Controversially, it was conducted privately. Magistrate Laurence Rivers Dunne heard accounts from 81 witnesses and examined correspondence between the council and government about their safety concerns. Dunne concluded that the casualties were the result of "a lack of self-control at an unfortunate place and time", a statement that later angered those who had been present.

There was concern that the report's findings would shatter the image of wartime Britain as calm and collected. This was considered a two-fold danger; it would show weakness to the country's enemies and damage the morale of its people. In addition, certain members of government were worried about the repercussions if it was discovered that they had rejected the local council's requests for station improvements. As a result, the report was kept under wraps until the end of the war and blame for the deaths was left to fall on the council. Survivors and relatives of the victims were told to keep quiet. Many felt unable to speak about the event anyway, too traumatised by what they had witnessed. Though not openly acknowledged, the safety issues were addressed; improvements were made to Bethnal Green station and other deep shelters, including handrails, signalling systems and covered entrances that allowed for better lighting.

Even after the report was released in 1945, the witness statements and documents remained classified and unavailable to the public for many years. Censored and kept out of public view as much as possible, the full scale of the tragedy went unacknowledged for decades.

In 1993, the 50th anniversary of the disaster, a plaque was quietly installed at the station. Bethnal Green-based architect Harry Paticas spotted the plaque in 2006 and felt a more fitting tribute was needed for the victims. The Stairway to Heaven Trust was created in 2008, and the charity began to raise money for a new memorial. Volunteers uncovered as much information as they could about the event and recorded interviews with the remaining survivors, witnesses and relatives. It wasn't until 2017 – 74 years after the incident – that the new memorial was unveiled. The Stairway to Heaven Memorial is a full-size replica of the Bethnal Green station staircase. Made from wood, the staircase is carved with the names of all 173 people who died in the disaster, ensuring that their identities, once covered up by a nervous government, will forever be on display, and, more importantly, remembered.



Image source: Wikipedia

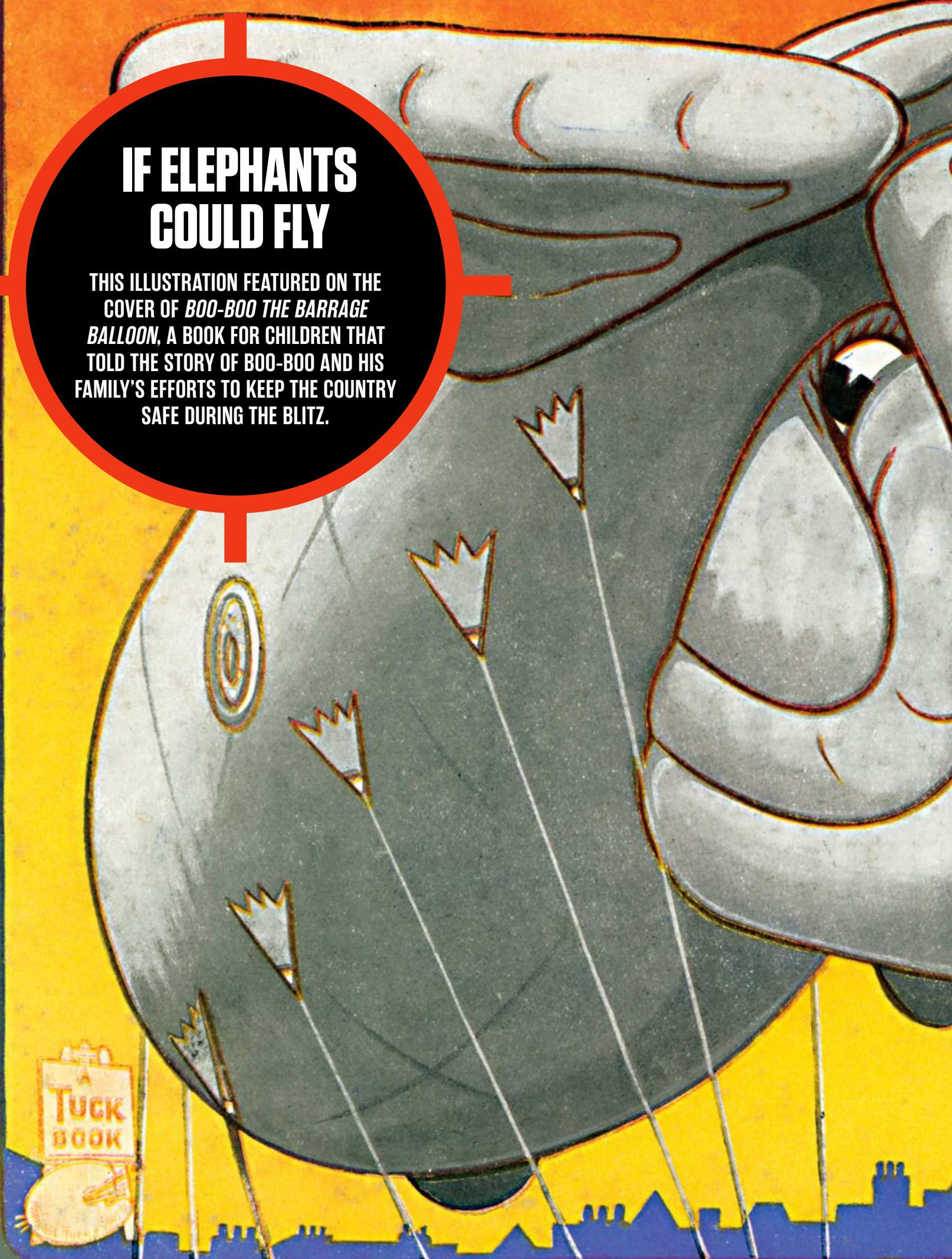


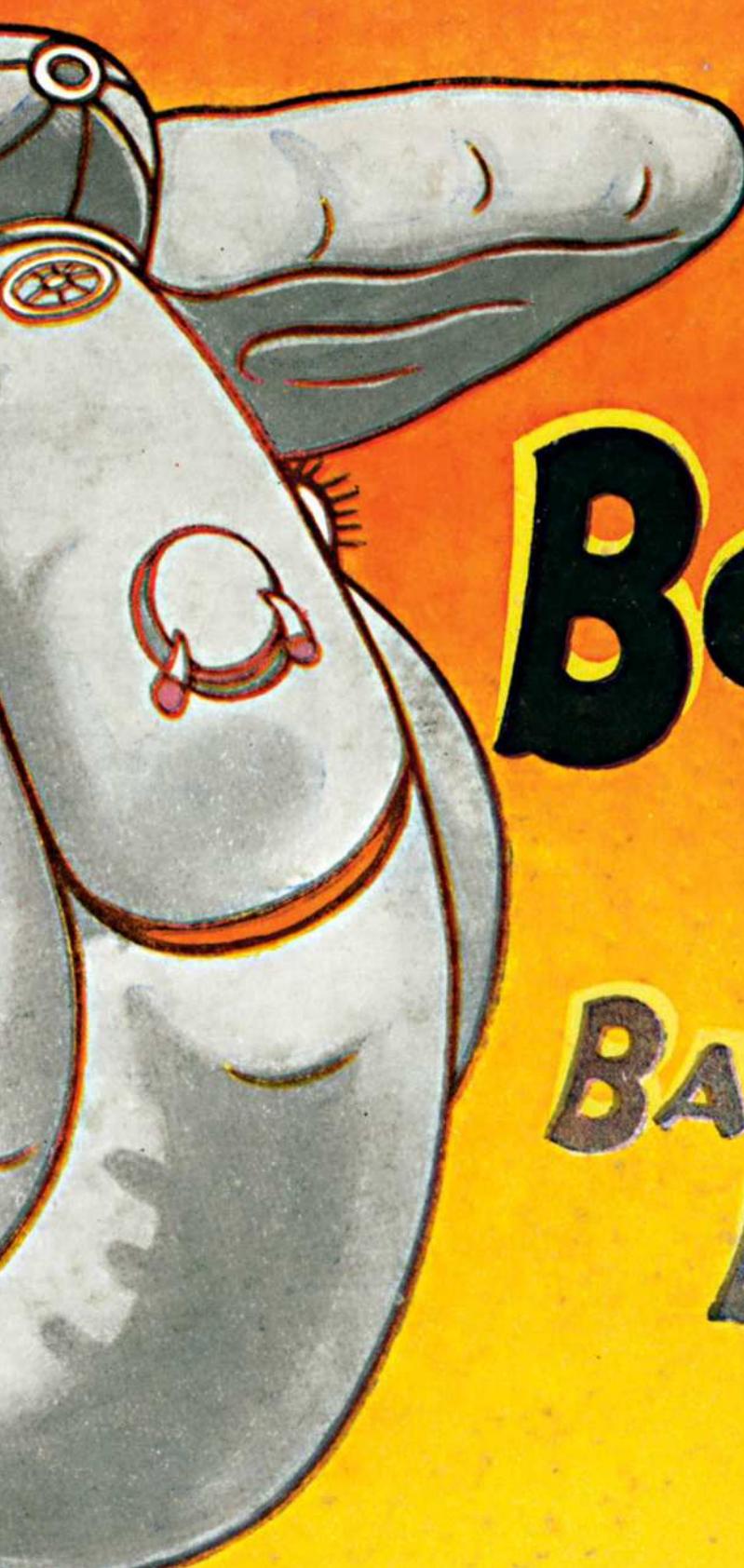
**"THERE WAS CONCERN THAT THE REPORT'S FINDINGS WOULD SHATTER THE IMAGE OF WARTIME BRITAIN"**

Image source: Getty Images

# IF ELEPHANTS COULD FLY

THIS ILLUSTRATION FEATURED ON THE  
COVER OF *BOO-BOO THE BARRAGE  
BALLOON*, A BOOK FOR CHILDREN THAT  
TOLD THE STORY OF BOO-BOO AND HIS  
FAMILY'S EFFORTS TO KEEP THE COUNTRY  
SAFE DURING THE BLITZ.





# Bo-Bo

THE  
BARRAÇE  
BALLOON



# BLITZ SPIRIT

AS WWII CONTINUED TO RAGE, THE CITIES AND TOWNS OF BRITAIN SOLDIERED ON  
BENEATH THE BOMBS, A COLLECTIVE SPIRIT OF DETERMINATION UNITING THE NATION

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The Blitz was a time of great suffering for the people of Britain, but adversity often gives rise to heroes. Meet some of the courageous men and women who worked tirelessly to help others during their darkest days

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With the prospect of total defeat edging closer, Hitler and his subordinates became desperate. In the summer of 1944 they unleashed a weapon that they prayed would tip the balance of the war in Germany's favour

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Refusing to leave her family, a teenaged Glennis Leatherdale determined to weather the storm

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Author of over 40 history titles, Professor Richard Overy provides his insight on the true importance of the Blitz and its legacy

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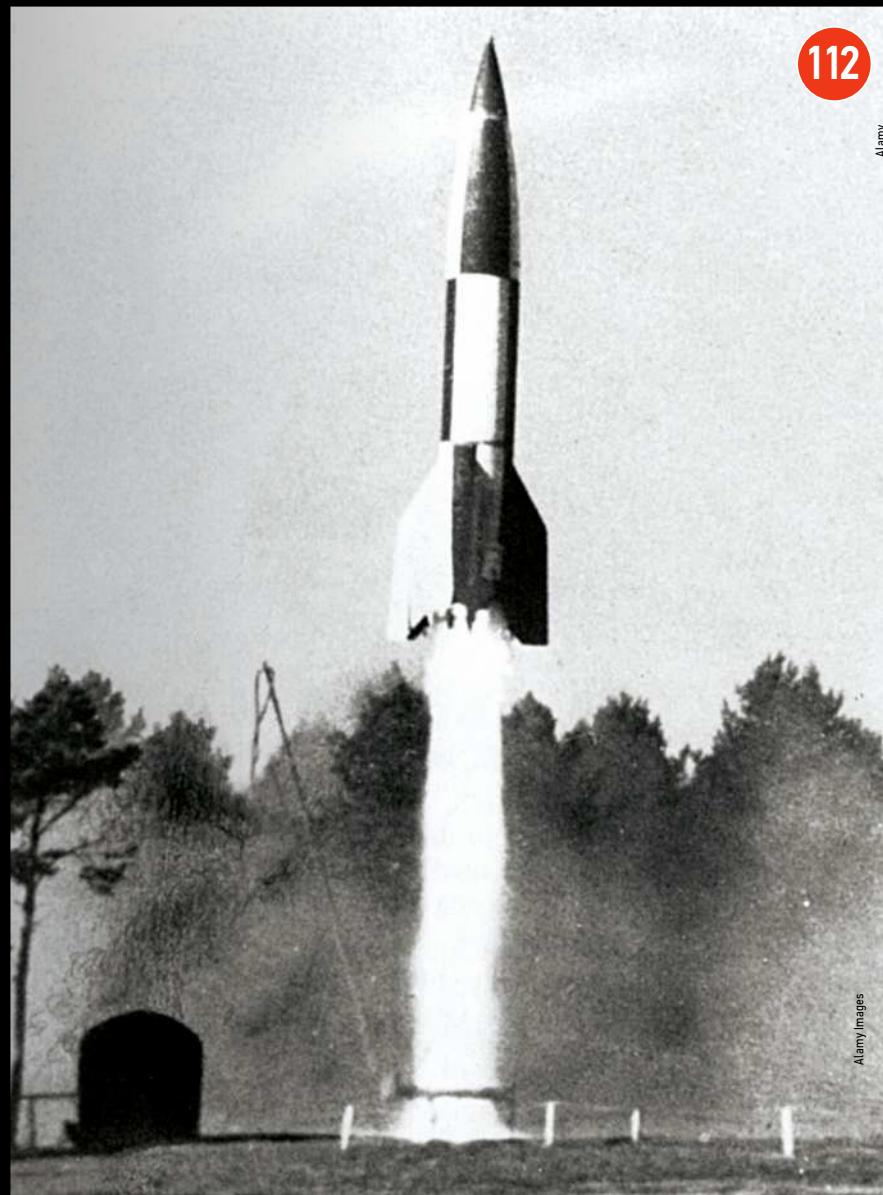
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# HEROES OF THE BLITZ



The men, women and animals who saved souls and lifted spirits during Britain's darkest hour

WORDS ALICE BARNES-BROWN



**W**hen the streets are quiet - too quiet - a sense of impending doom creeps in. At moments like these, it's best to shelter, get out, or pray. During the Blitz of 1940 and 1941, the streets of Britain could go from bustling hives of activity to an abandoned no-man's land in under a minute, once the familiar wail of air raid sirens percolated eardrums.

Britain's major cities became accustomed to this terrible sound, shortly followed by the hum of low-flying German planes and the blasts of bombs going off. As the urban population huddled together in Underground stations, cupboards and bunkers in their back gardens, a feeling of unity was forged in the darkness. Over 43,000 ordinary people were killed in the Blitz, which brought the horrors of war to the nation's doorstep. Those that survived each frightening night were left to rebuild their lives, their families and even their communities.

Volunteers up and down the country were the first to rush out to aid their neighbours, providing food, warmth, support and a shoulder to cry on. They were vital in keeping Britain going, and more importantly, not letting national morale slide in the face of such a devastating onslaught. These are the unsung heroes of Britain's wartime trauma.

# JOHN BABINGTON

Chatham Docks in Kent was a prime target for Luftwaffe raids. Its access to mainland Europe, coupled with its close proximity to London, meant it was subjected to a number of them. In late 1940, one such bomb hit the ground, but it did not explode, instead creating a five-metre crater.

It was an unfamiliar bomb, suspected to have a new anti-withdrawal device wired in. One of its kind had already killed an RAF bomb disposal expert just weeks before.

Chatham Docks was brought to a standstill, but a tall, quiet man stepped forward, offering to defuse the mine.

A cool man under pressure, Probationary Temporary Sub-Lieutenant John Babington volunteered for the bomb disposal unit at the outbreak of war. Despite his apparent death wish, he was lowered into the pit.

With shaking hands, Babington tied a line to the head of the fuse, attempting to pull it out without

blowing the docks to smithereens. As the team tried to raise the bomb from its hole, the line broke three times, forcing their hearts into their mouths. Eventually, Babington safely directed the lifting of the bomb and defused it.

As a result of his courageous actions, the British Army was able to gain vital information on how to defuse bombs of this type, undoubtedly saving many lives in the process. Babington was awarded an OBE in 1944.

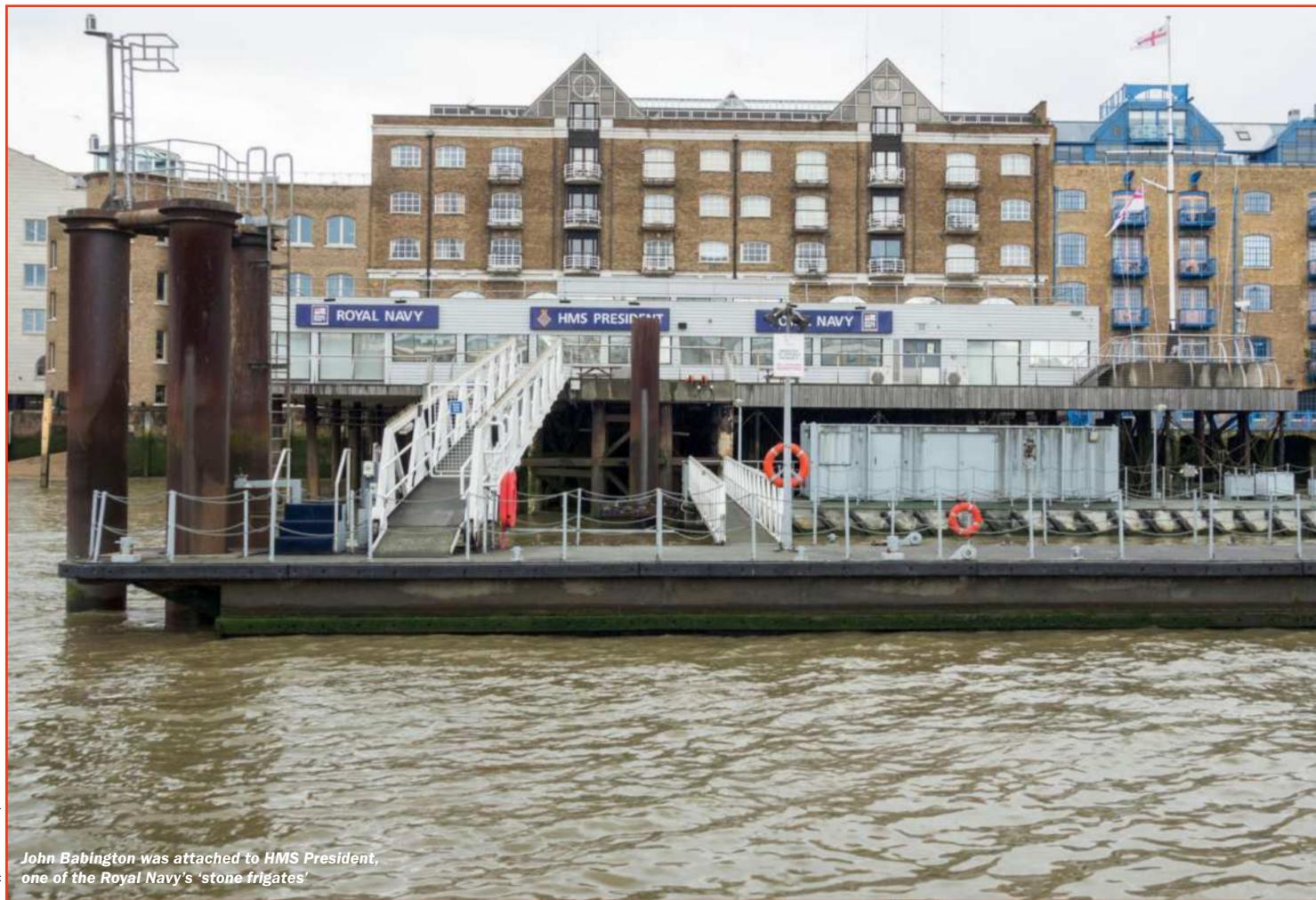


Image source: Alamy



Image source: Alamy

## NATIONAL FIRE SERVICE

During the Blitz, deadly incendiary bombs were hurled at civilians. Most ran away from the fire, yet a group of brave men and women in dark blue uniforms ran towards it. These "heroes with grimy faces" were the ones to call when flames threatened to consume everything in their path.

The Blitz was often their first experience fighting real fires, and they rose to the challenge with an admirable sense of duty and courage. Many of these volunteers were women, who took on vital roles driving fire trucks, staffing emergency phone lines and clearing up the devastation wrought by

the flames. Men who were too old or young for conscription were tasked with handling the fires themselves. Lacking modern equipment, teams towed their lifesaving pumps of water to the carnage on anything they could: old taxis, cars, even their bare hands. By the end of the war, London's fire service had answered over 50,000 calls.

The National Fire Service was formed after the Blitz in 1941, ensuring standardisation of equipment, procedures and training. Many of those who had served in the Auxiliary Service were given jobs in the new, professional fire service.

# ROBERT DAVIES

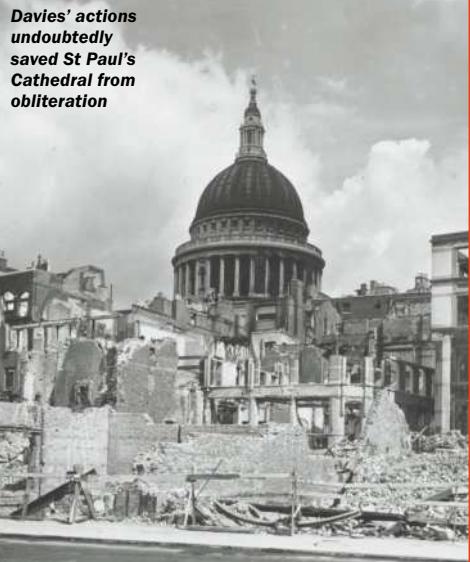


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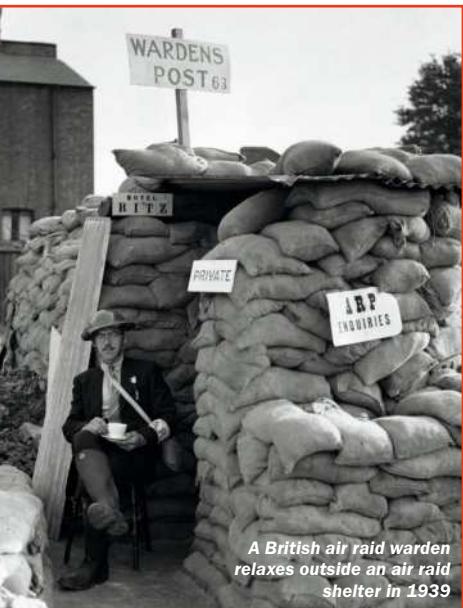
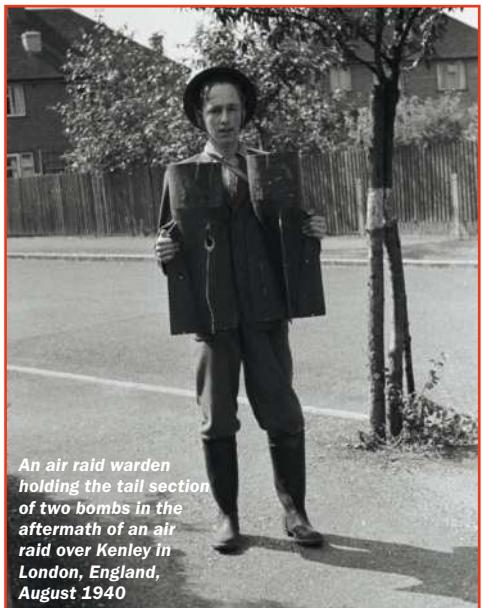


Image source: Getty Images

St Paul's Cathedral, standing defiantly above the ruins of London, became an important symbol of the city during one of its hardest times. When a massive unexploded bomb (said to be one of the largest ever to hit London) landed in its courtyard in the early hours of 12 September 1940, it wasn't just the Christopher Wren landmark that was at stake; so too was the spirit of the city.

The bomb had lodged itself eight metres into the ground. Lieutenant Robert Davies took on the tricky task of its removal. The bomb could not be disarmed, and exploding it on the spot would destroy a precious national treasure. Even worse, the bomb had ruptured a gas main, meaning that any explosion would have been exacerbated by the gas leak.



An air raid warden holding the tall section of two bombs in the aftermath of an air raid over Kenley in London, England, August 1940

Image source: Getty Images



Image source: Getty Images

It took Davies and sapper George Wylie three days to carefully excavate the bomb. They then used two lorries to pull it out of the ground. The bomb had been removed, but it was still in the heart of London. Davies would not have the deaths of his men on his conscience, so he took one of the lorries and drove the bomb out of the city centre himself. His truck carefully picked its way through the deserted streets of East London, which had been evacuated for the purpose.

Upon his arrival at Hackney Marshes, a piece of open ground used as a 'bomb graveyard', the massive German bomb was finally detonated. It left a 30-metre-wide crater, but no lives were lost – and neither was St Paul's. Davies and Wylie were both awarded the George Cross for their efforts.

**"THE BOMB HAD LODGED ITSELF EIGHT METRES INTO THE GROUND. DAVIES TOOK ON THE TRICKY TASK OF ITS REMOVAL. THE BOMB COULD NOT BE DISARMED, AND EXPLODING IT WOULD DESTROY A PRECIOUS NATIONAL TREASURE"**

## ARP WARDENS

Sensing that a future war was more likely to hit home than ever before, the Air Raid Precautions Act was passed in 1937, putting in place a number of air raid defences. By the time the Blitz started, 1.5 million people were involved in the ARP. Some of them acted as Air Raid Wardens, who in the early stages of the war enforced the blackout. With their calls to 'Put that light out!', many residents found them annoying. Yet when the Blitz came, the ARP wardens came into their own.

ARP wardens taught the population how to cope during an air raid, including finding a safe place to shelter and donning a gas mask. They put their lives at risk patrolling the street, even while it was being bombed. Trained in first aid as well as search and rescue, the ARP wardens were often the first help available after a bomb blast, and they acted as paramedics, firefighters and police all in one. At more peaceful times they even put on talent shows and plays to keep Britain entertained.

The ARP wardens were volunteers from all walks of life. One hero in London was Ita Ekpenyon, a Nigerian-born trainee lawyer who patrolled the Marylebone streets. As well as putting out incendiary bomb fires and administering first aid, Ekpenyon had the dual task of combatting racism. In one event, he prevented the ejection of non-British people seeking safety in an underground shelter, saying that prejudice had no place when bombs were falling outside.

**"QUINN DUG OUT SEVEN PEOPLE AND ATTENDED TO THEIR INJURIES BEFORE RETURNING TO THE ARP POST TO ASSIST DISTRESSED PEOPLE"**

Image source: Alamy



*Quinn (pictured with sister Joyce) later reflected on her George Medal, "I don't think I necessarily deserved it. I was only brave because we had to be"*



## BETTY QUINN

A 17-year-old stores clerk from Coventry, Quinn was also a volunteer St John Ambulance cadet. On 19 October 1940, she was administering first aid at an ARP post when incendiary bombs suddenly fell nearby in the city. The *Coventry Standard* newspaper reported that Quinn helped people without any assistance, which initially included assisting a man into a shelter. However, the situation escalated. "An Anderson shelter received a direct hit and she ran through a rain of bombs and commenced digging with a spade."

Quinn dug out seven people and attended to their injuries before returning to the ARP post to assist distressed people. She remained with the injured civilians until the last person had been removed by ambulance. Quinn was subsequently awarded the George Medal "for gallantry not in the face of the enemy" and became the youngest recipient of the award. Tales of her bravery spread throughout the British Empire and she emigrated to South Africa after receiving a marriage proposal.

## HARRY ERRINGTON

The son of Polish-Jewish immigrants, Errington worked as a master tailor. When war broke out he volunteered as a fireman in the Auxiliary Fire Service in Soho. On the night of 17–18 September 1940, Errington was in a basement air raid shelter under a three-storey garage when a bomb hit the building. All the garage floors collapsed and 20 people were killed, including six firemen. Errington was knocked unconscious by the blast and woke surrounded by raging fires.

As he made for the emergency exit, Errington heard the cries of two trapped colleagues under debris and went back to rescue them. He dug one man out with his bare hands while wearing a

*Errington eventually moved his family tailoring business to the prestigious Savile Row and retired in 1992 as a director. He was also heavily involved in the VC & GC Association for decades*

blanket on his head to protect himself from the flames. The other man was pinned to a wall by a radiator, but Errington also managed to save him despite having severely burned hands. All three men survived and Errington was awarded the George Cross in August 1941. He was the only Londoner out of three firemen during WWII to be awarded the George Cross.

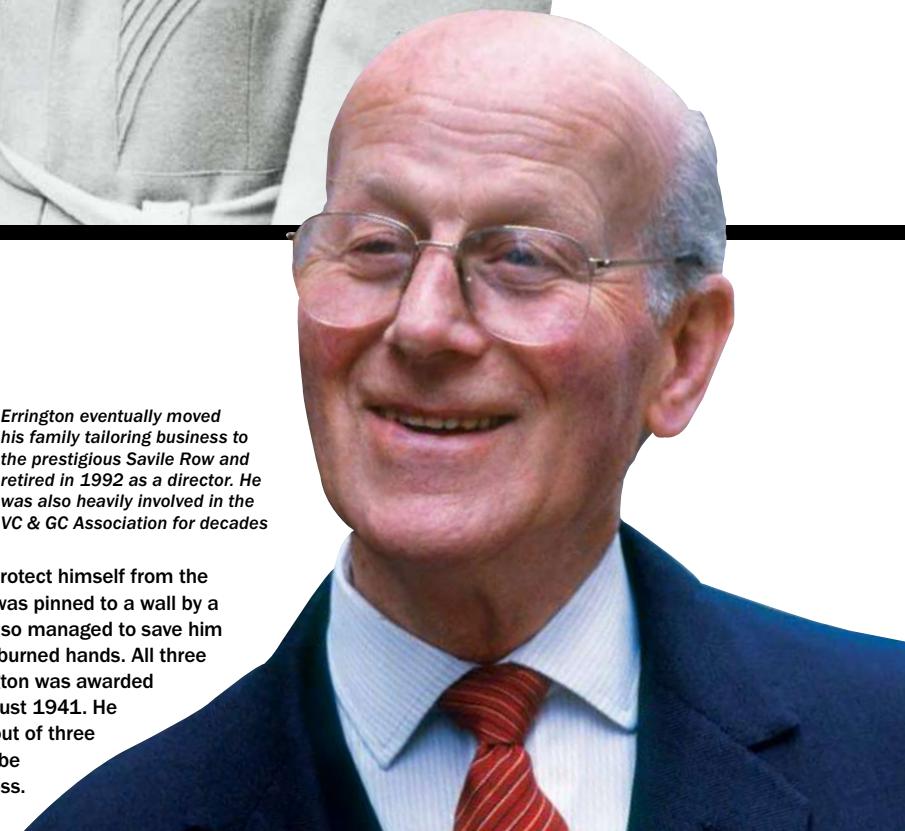




Image source: Alamy

# RIP

A stray, mixed-breed terrier, Rip was found wandering about after a bombing raid in Poplar, London, by an air raid warden called Mr E. King. King soon adopted the dog and he became the mascot of the Southill Street Air Raid Patrol. Despite having no training, Rip had a talent for locating people in bomb-damaged buildings. He would sniff and scratch for signs of life before barking to attract attention.

Such was his skill that Rip became the ARP Service's first official search and rescue dog. In 12 months during 1940-41 it is reckoned that he rescued over 100 Blitz victims in London. His success was partially responsible for prompting the training of many search and rescue dogs by the end of the war. Rip was awarded the PDSA Dicken Medal in July 1945, which is the animal equivalent of the Victoria Cross. His citation read, "For locating many air-raid victims during the Blitz of 1940."

**"IN 12 MONTHS DURING 1940-41 IT IS RECKONED THAT RIP RESCUED OVER 100 BLITZ VICTIMS IN LONDON"**

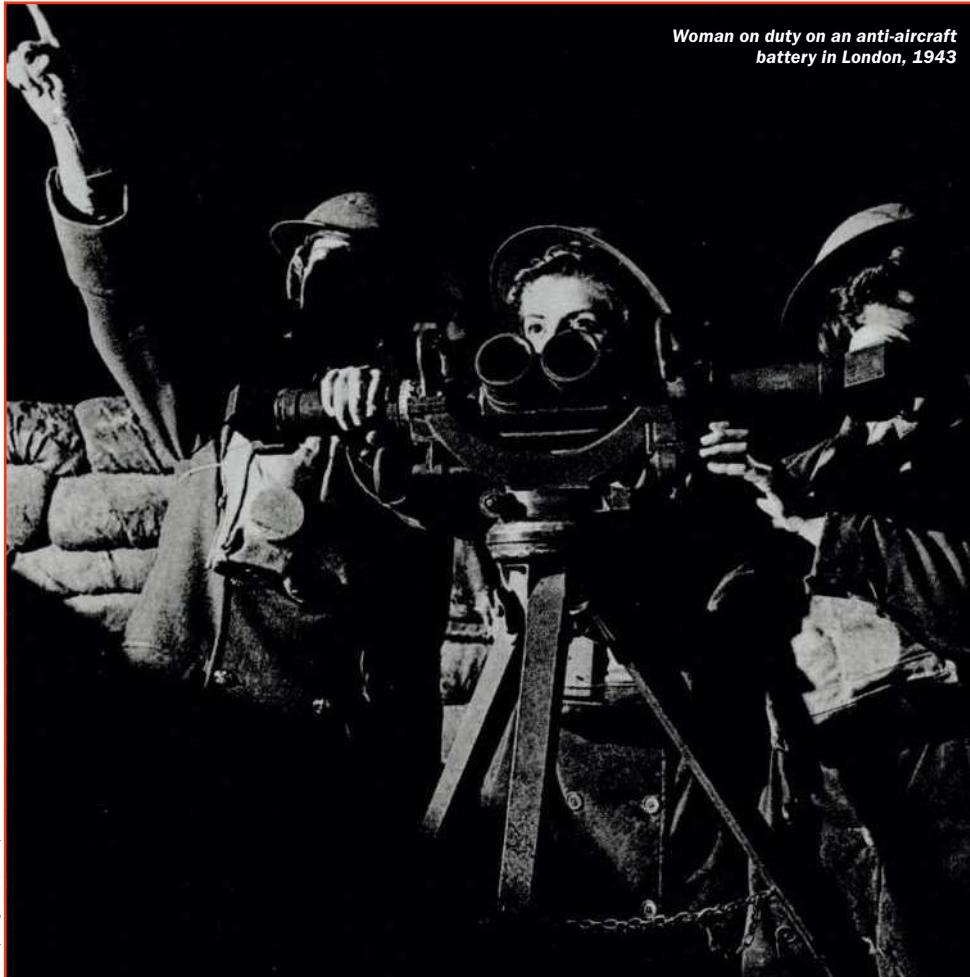


Image source: Getty Images

# ANTI-AIRCRAFT DIVISIONS

Anti-Aircraft Command, part of the Territorial Army, was responsible for defending Britain against aerial attacks, and they did so with admirable diligence and great skill. Stationed in major cities and along the coastline, these regiments worked around the clock to keep a watchful eye on Britain's skies throughout the war. During the Blitz, they focused their efforts on Britain's industrial cities.

Searchlights, artillery and rocket launchers pointed skywards were pitted against the Luftwaffe, locating and shooting down German bombers before they could release their deadly load. Technology helped the Anti-Aircraft Command in their protective mission - they were trained to use innovative radars and modern guns to neutralise enemy targets.

Despite their crucial duties, the Anti-Aircraft regiments were woefully under-equipped and understaffed. By February 1941, there was a 60 per cent shortfall of heavy anti-aircraft guns installed in Britain and just over 4,500 searchlights protecting the country.

To combat this problem, towards the end of the Blitz, the Anti-Aircraft Command pioneered the introduction of women into their ranks. This created some of the first mixed regiments in the military. By 1942, women were staffing searchlight units, working alongside their male colleagues to protect the country.

# ARTHUR MERRIMAN

A science teacher by trade, Arthur Merriman's expertise were put to use as Assistant Director, Bomb Disposal at the Directorate of Scientific Research. However, it was his hands-on undercover work that won him the George Cross, Britain's highest civilian honour.

Days into the Blitz, a 550-pound (249-kilogram) bomb fell on Regent Street. It did not explode, so nobody knew when it could blow. Soon, a terrifying sound permeated the atmosphere – the bomb had started to tick.

Merriman used his scientific mind to estimate when the bomb might go off and resolved to get as much of the explosive matter out of the bomb as possible. Refusing to panic, Merriman worked as quickly as he could, even though the bomb could have killed him at any moment. When he calculated his time was nearly up, he withdrew to a safe distance and watched the bomb explode.

He had successfully removed so much of the explosive that the blast only inflicted minor damage to nearby buildings. The West End was safe. As well as being awarded the George Cross he was drafted into the Royal Engineers and dispatched around the country to examine explosives.

**"A 550-POUND BOMB FELL ON REGENT STREET. IT DID NOT EXPLODE, SO NOBODY KNEW WHEN IT COULD BLOW"**



Image source: Wikipedia / Public Domain

# WOMEN'S VOLUNTARY SERVICE

Founded by the indomitable Lady Reading in 1938, the first task of the Women's Voluntary Service was to manage the evacuation of children into the countryside. Then, during the Blitz, the WVS established 'rest centres' up and down the country. If you lost everything to an air raid, a female volunteer would welcome you into the centre with open arms, providing clean clothes, a bed to sleep in and food. Their mobile canteens with hot tea urns were often a sight for sore eyes on the pulverised streets of Britain's cities.

As the death toll rose, the WVS staffed information centres to notify families of their deceased or injured loved ones, which was emotionally traumatic work. The WVS were also trained in first aid and assisted firemen and ARP wardens on the scene. Their work could put them in harm's way, with 241 WVS members being killed during the Blitz.

Despite this, the WVS became some of the most welcome faces of the war, with their cheerful demeanour and kind-heartedness. The work of the WVS was so inspiring that by the end of the Blitz its membership had swelled to approximately 1 million women. It continues to operate today as the Royal Voluntary Service.



Image source: Getty Images

# THE POWER OF A BREW

## BRITAIN'S NATIONAL BEVERAGE, A CUP OF TEA PULLED MANY THROUGH THE BLITZ

Britain runs on tea, and this simple, hot brew was what fuelled bombed-out Britain during the Blitz. The bevy has real psychological power: it was considered to be good for those suffering from trauma and shock, to help bring a bit of normality and routine to a person's day (even in the most dire circumstances), and it soothed throats covered in brick dust thanks to bombing.

The mobile tea canteens that appeared on Britain's streets served cuppas to any and all. People gathered around the boiling urns for warmth and comfort. A great

social leveller, rich spoke with poor, men with women, adults with children at the tea canteen.

However, like most other foods, tea was rationed during the Blitz: one pound of tea was supposed to make 260 cups. Clean water could be hard to come by, too. Their varying quality led to a variety of light-hearted jokes, including "make me another cup of tea like this and I'll report you to the council!" At a time as dreadful as the Blitz, the small joy of a cuppa and a chat was a lifeline for many.



A painting of Brandon Moss by Alfred Thomson

Image source: Wikipedia

# BRANDON MOSS

The ruins of Coventry Cathedral are arguably Britain's most famous example of Blitz devastation. This industrial city was hit particularly hard by German bombs. The night of 14–15 November 1940 was another anxiety-inducing one for the city's residents, as the rumble of Luftwaffe planes approached. Special Constable Brandon Moss was walking his beat, making sure nobody was still out.

At 11:30 p.m. a huge house explosion blew bricks and glass into the air. Moss knew that three people were inside at the time, now suffocating under the rubble. He immediately started clearing a tunnel, calling on other rescuers to help. It was incredibly dangerous, and everyone knew it: the Luftwaffe

could strike again, a gas leak could ignite, or the ruins of the building could come down on them. The peril was heightened when a delayed-explosion bomb landed in a pub just 20 yards away.

As the night wore on, and nobody was rescued, many of his fellow rescuers gave up. But Moss kept going. Working alone, he managed to rescue all three people alive.

However, he quickly learned that more were trapped in the neighbouring house. By 6:30 a.m. the next morning, he'd rescued another soul, and recovered the bodies of four victims. One month later, he became the first Special Constable to be awarded the George Cross.



A female ambulance driver rushes to a call out during the Blitz

Image source: Getty Images

# ST JOHN'S AMBULANCE/MEDICS/DOCTORS

Below: This postage stamp was released in 1987 to celebrate 100 years of St John's Ambulance



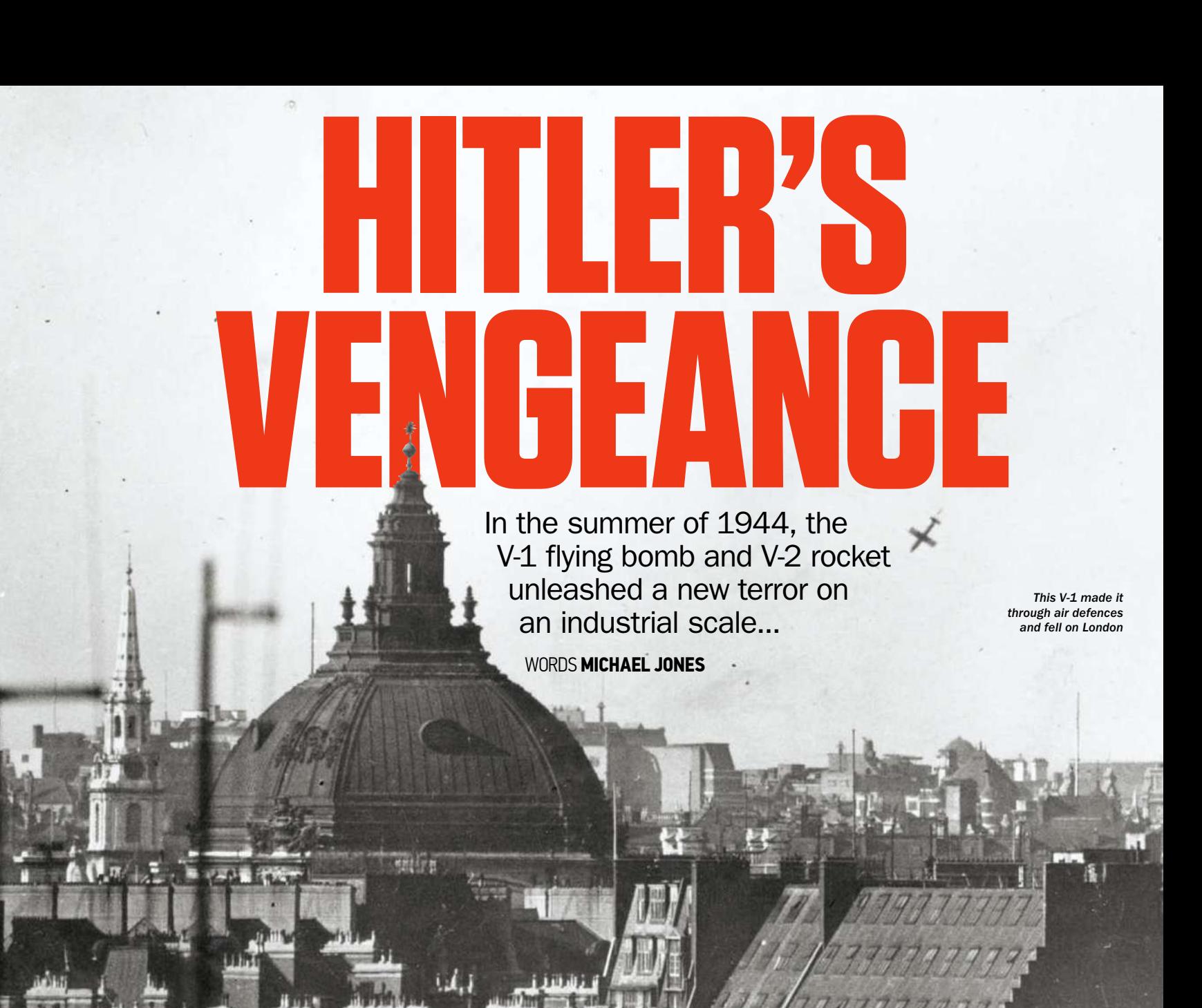
Volunteers at St John's Ambulance were lifesavers on the home front, providing complex medical care while the Blitz raged around them.

Some 50,000 St John's members served in the Civil Defence, administering first aid, conducting rescue work and supporting rapid response teams in emergencies. Members of St John's also set up stations in underground shelters, sometimes caring for hundreds of people at a time. Medics frequently conducted their vital work under heavy fire, which was both terrifying and difficult.

When people were severely injured by bombing raids, St John's Ambulance drove them to hospital, which itself was a hazardous job: blackouts made driving very perilous indeed, and vehicles frequently fell victim to bomb blasts. A significant number of brave ambulance drivers lost their lives while trying to save others. Many of these courageous volunteers were female.



# HITLER'S VENGEANCE



In the summer of 1944, the V-1 flying bomb and V-2 rocket unleashed a new terror on an industrial scale...

*This V-1 made it through air defences and fell on London*

WORDS MICHAEL JONES

**T**he Nazi 'vengeance weapon' offensive of 1944–45 aimed to utterly demoralise the British population, particularly in London and the South East (and later the newly liberated Belgian city of Antwerp). Alongside the loss of lives and physical destruction ran a psychological battle between Allied and Nazi propaganda. Did the Führer's terror tactics lift German morale and demoralise his opponents or do just the opposite?

## The onslaught begins

Just after 4.00 a.m. on 13 June 1944, the Royal Observer Corps at Dymchurch in Kent signalled the arrival of an entirely new enemy weapon. From a Martello tower built when Britain faced invasion from Napoleon and now used as a lookout for anything Hitler might fling across the channel, spotters saw an approaching object spurting red flames from its rear and making a noise like "a Model-T-Ford going up a hill". It was the V-1 Flying Bomb, the 'V' standing for Vergeltungswaffe: 'Vengeance weapons'.

During the summer of 1944 several thousand of these missiles would land in southern England, killing nearly 5,500 civilians and causing enormous damage to property. A week after D-Day, when everyone in Britain was hoping the war would soon be over, it shook people's morale. It was the Blitz of 1940 all over again.

"The bombardment will open like a thunderclap at night," Field Marshal Keitel, head of the German High Command, enjoined. But in truth the very first attack did not seem particularly terrifying. Ten flying bombs were despatched by Flakregiment 155, the German unit charged with operating the new secret weapons from a launching site in the Pas de Calais. "After months of waiting, the time has come to open fire," Colonel Max Wachtel told his men. "We approach our task supremely confident in our weapons." However, five V-1s immediately crashed and another disappeared from view. The remaining four were sighted over Dymchurch, flying in the direction of London, but only one exploded, killing six and injuring nine at Bethnal Green.

"The initial launch was a flop," Hitler's Luftwaffe adjutant Nicolaus von Below admitted. "At the very last moment Army High Command brought forward the operation by two days and this interfered with the timetable for completing the heavy prefabricated launching ramps." It was not an auspicious beginning for Hitler's terror campaign.

But two days later the attacks began in earnest, with some 240 V-1s despatched across the Channel. On 16 June, Croydon resident Herbert Hartwell gave one of the first eye-witness accounts of the flying bombs. "The sirens sounded. Guns kept firing then stopped after about one minute. I looked out of the back-door and saw two planes caught in the searchlights. They were moving at a terrific speed. Red markers and tracers went up and a yellow flash in the sky showed that a plane was hit.

"At around 2.00 p.m. another plane came ever so low, and when he had gone over his engine shut off. About eight seconds later there was a loud explosion. Afterwards we heard that these were pilotless planes which exploded five to 15 seconds

A V-1 flying bomb and launch ramp, Éperlecques bunker complex, France



Aerial view of the damage from a V2 rocket that exploded in East Ham, London

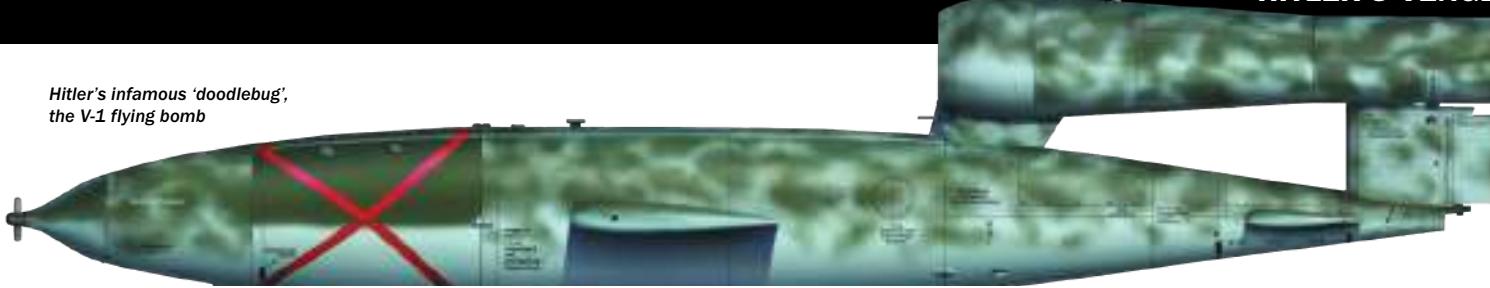


Civil Defence rescue workers search for survivors under a huge pile of rubble and timbers following a V1 attack



An elderly man inspects the front paw of his dog, injured following a devastating V1 attack

Hitler's infamous 'doodlebug', the V-1 flying bomb



after the engine stopped and the light at the back went out. The plane we heard came down in Warminster Road."

The borough engineer reported, "Explosion at the back of 64 Warminster Road. This house and no. 62 wrecked, no. 66 partially wrecked and unstable, no. 68 badly damaged. Blast damage was extensive over a radius of 400 yards." The engineer described the assailants as 'pilotless aircraft' (PAC) – they would soon become known as 'flying bombs', or popularly 'doodlebugs'.

Each flying bomb contained about a ton of explosives, travelled at speeds of up to 644 kilometres per hour and had a height ceiling of around 914 metres. It had a jet engine and could travel for a distance of up to 257 kilometres. Its range was determined by a small pre-set propeller that caused it to dive after a given number of rotations. It was a weapon particularly destructive to property as it did not cause a big crater like a conventional bomb but exploded on the surface, creating a tremendous blast.

### Initial reactions

Edward Stebbing was a hospital worker in Potters Bar. "Talk about the pilotless planes is almost endless," he confided to his diary on 19 June 1944. "It seems they travel at a great speed and at a low height, too low for our radar defence systems and anti-aircraft guns. One man commented that the

Germans seemed to have a great store of them ... another person said they came over 50 at a time and the trouble was 'they [the British Government] can't do anything to deal with them'. The question uppermost in people's minds is whether we will be able to find an answer to the pilotless planes ... I must admit, these things have put my nerves on edge more than ordinary air raids. I suppose the novelty of them, the devilish ingenuity, has something to do with it. We look up at the sky with a mixture of fear and curiosity."

"It is the noise I remember best," said Cyril Oakley of Gravesend. "The distant hum, getting louder and louder, growing into a roar and then a deafening rattle as it passed overhead."

"It was a strangely menacing sound," added Richard Barham, "once heard never forgotten, but difficult to describe, a sort of rattling, deep-throated growl." Londoners heard the sound of the flying bomb's engine followed by the terrifying moment when it stopped. The 15-second pause, described by many as "a deafening silence", was perhaps the hardest to bear. Then would come the explosion, with a cloud of rubble and dust thrown into the air.

The German armed forces bulletin was simple and to the point. "Last night and this morning, south England and the regions around London were struck with new explosives of the heaviest calibre." Soldier and ardent Nazi Wilhelm Prüller wrote happily in his diary, "To judge from today's Wehrmacht news, the 'revenge' ('vergeltung') has begun by now." Indeed, the Führer's propaganda minister Joseph Goebbels was jubilant. "Destructive fire is raining down on London ceaselessly," he announced. "The effect is far stronger than the autumn of 1940 – and English defensive measures so far have proved futile ... The sky above the British capital is blood-red, with huge clouds of smoke from the targets hit."

However, German civilian Friedrich Kellner, from the provincial town of Laubach, was more cautious. "Propaganda has spoken – but now we wait for the real impact of the 'miracle weapons,'" he noted. "Apparently, it concerns a flying bomb or air torpedo, undoubtedly causing destruction – completely indiscriminately. Whether its power is greater than concentrated bombing raids I am unsure." With the D-Day landings two weeks old, and a Red Army attack imminent on the Eastern Front, Kellner sounded a warning note. "All attention is on England and no one thinks of the Soviet Union. Where is the 'miracle weapon' against the Russians? As their offensive draws closer, it will not help Germany a great deal to go hunting with explosives across the English Channel."

A launching site for V-2 rockets in Germany



## The development of the V-1

The project had taken several years to develop. On 28 May 1942, Field Marshal Erhard Milch, deputy commander-in-chief of the Luftwaffe, met with aircraft designer Robert Lusser and outlined his plans for a pilotless missile. The Luftwaffe, forced onto the defensive after the Battle of Britain and Allied bombing of German cities, was looking to regain prestige by developing a new weapon. Lusser's design was practical and appealing. The plane would be made of thin steel plate (making no demand on the hard-pressed aluminium industry) and would burn low-grade petrol instead of scarce and costly high-octane aviation spirit. Labour requirements would not be too demanding (about 550 man hours, excluding the explosive and autopilot). The contract was given to the manufacturing company Fieseler – already makers of the Storch high-wing monoplane – less than two months later on 19 July. They were instructed that the flying bomb would carry a warhead of around 200 pounds (91 kilograms) and would be driven by a pulse jet engine. The project was codenamed Kirschkern ('Cherrystone').

On Christmas Eve 1942, the first V-1 was launched from the missile base of Peenemünde, on the island of Usedom just off the Baltic coast, followed by a series of further tests early the following year. The early results were disappointing. The missile went out of control when subjected to a cross wind, and numerous crashes were caused by errors in the design. But by May 1943 sustained flights were achieved, with one flying bomb covering a distance of 245 kilometres and another reaching a speed of 604 kilometres per hour. Now Hitler took

an interest in proceedings. Faced by a devastating series of raids on Hamburg beginning on 24 July 1943, the Führer demanded retaliation. "The only thing that will have any effect is a systematic attack on Britain's own towns and villages," he stated. "You can only smash terror with counter terror." Flakregiment 155 was established and made responsible for the actual launches in northern France. The flying bomb was now designated a vengeance weapon.

The British Government had long feared such an onslaught. A War Office memo of 13 February 1943 warned, "There have recently been indications that the Germans may be developing some form of long-range projectors, capable of firing on this country from the French coast." Two months later Prime Minister Winston Churchill appointed Duncan Sandys (who had been commander of Britain's first experimental anti-aircraft rocket unit) to investigate German long-range rocket development.

On 27 June 1943, Sandys reported to the War Cabinet on the missile site at Peenemünde, saying that the development of jet-propelled planes was probably proceeding there side by side with the work being carried out on rockets (the future V-2). He advised that the site be destroyed by a bombing raid as soon as possible.

On 17 August 1943, 596 bombers carrying 1,650 tons of high explosives attacked Peenemünde. There were direct hits on the assembly buildings where the V-2 rocket was about to be produced, setting back the project several months. Test firing of rockets was moved to Poland and mass production to underground caves. However, the airfield at Peenemünde West, where the flying

bomb tests were being carried out, did not receive a single hit. By the end of November the British Government was warned that the most imminent threat was not a rocket but a flying bomb. Storage buildings and earth ramps were sprouting up over northern France. Each site had the capacity for 20 flying bombs. By early 1944 nearly 100 sites had been identified, some hidden in woodland, where the trees gave them perfect cover. American Fortresses began bombing them, but the results were disappointing. The Germans were completing new sites faster than the Allies could destroy them.

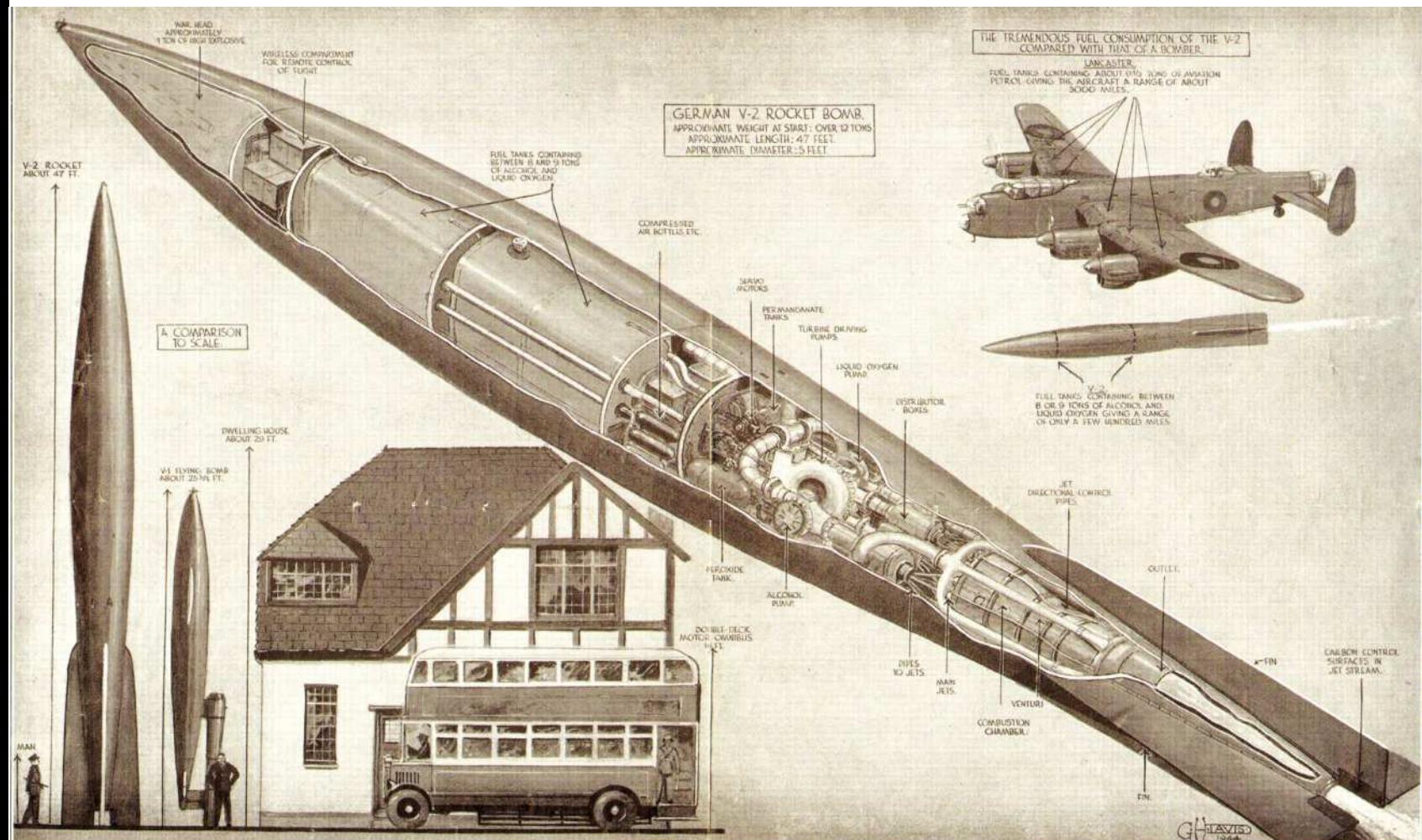
On 26 April 1944, British police, wardens and members of the Royal Observation Corps were given instructions – gleaned from the latest military intelligence – on the impending V-1 onslaught. They were told, "The pilotless aircraft is believed to resemble a small monoplane, having a wing span of about 20 feet and an overall length of about 18 feet. No pilot's cockpit will be visible. The aircraft will be jet-propelled and consequently no propeller will be fitted."

Around the same time, Hitler grimly ordered, "The long-range bombardment of England will commence in the middle of June – London will be the main target." Now that bombardment had begun.

## The British response

The campaign saw many terrible incidents. The Guards' chapel at Wellington Barracks was struck by a V-1 during a special Sunday morning service, killing 119 of the congregation. On 28 June, the Air

*Below: A 1944 Illustrated London News front page showing illustration of V-2 rocket launches*



A Royal Air Force  
Supermarine  
Spitfire manoeuvres  
alongside a German  
V-1 flying bomb in an  
attempt to deflect it  
from its target

**"CHURCHILL'S STATEMENT  
ON THE FLYING BOMBS HAS  
MODIFIED THE IDEAS OF BOTH  
THOSE WHO WERE PRONE TO  
EXAGGERATE AND THOSE WHO  
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- EDWARD STEBBING

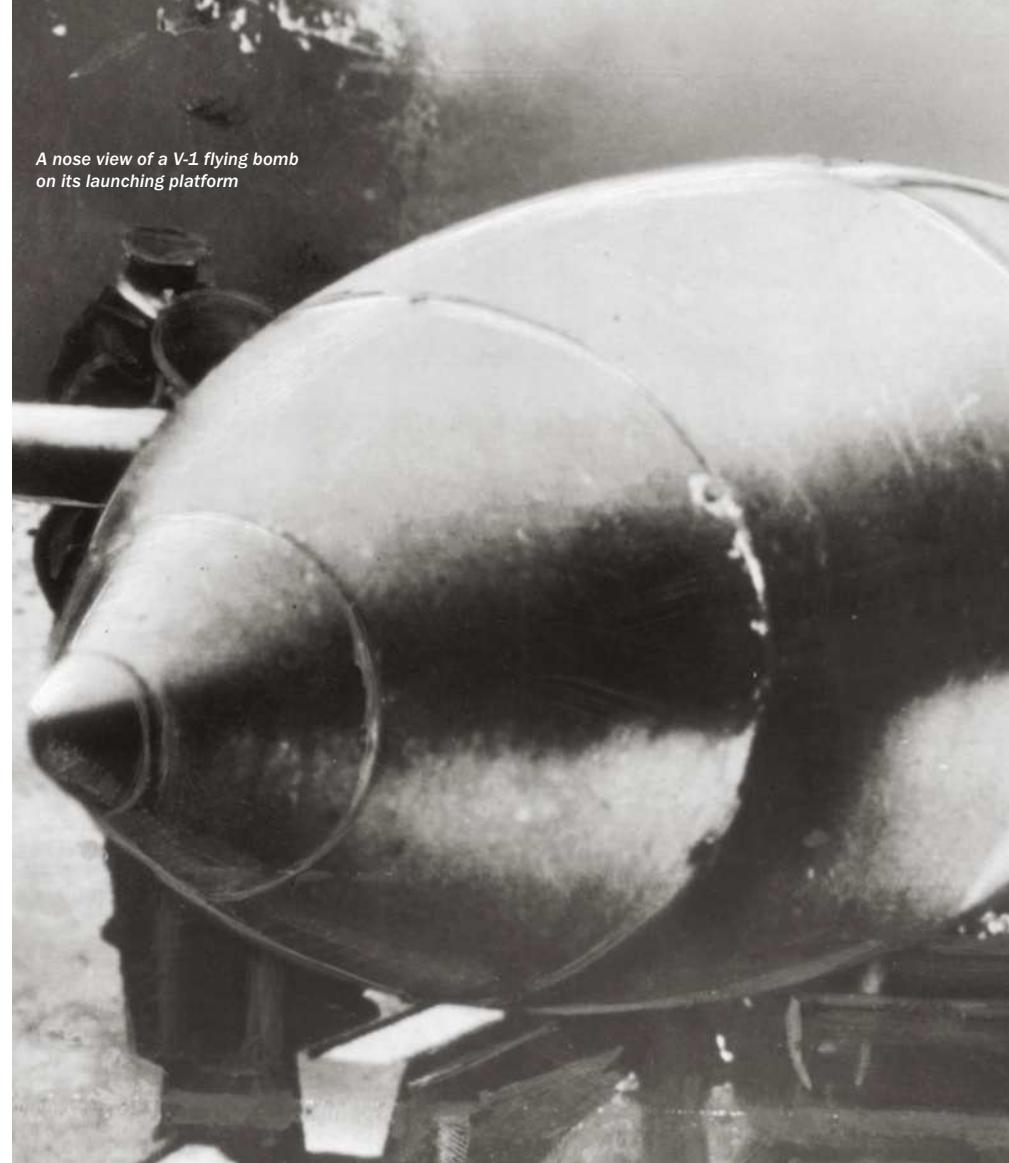
*Launching a V-2  
rocket. More  
elaborate than the  
V-1, these were first  
fired against London  
on 8 September 1944*



An elderly man sits on the pile of rubble that was once his home following a V-1 strike in the Highland Road and Lunham Road area of Upper Norwood, London, July 1944



A nose view of a V-1 flying bomb on its launching platform



Ministry on the Strand received a direct hit, with the loss of 198 lives. Defence measures were hurriedly put in place. At the end of the month Winston Churchill visited the anti-aircraft batteries that had been moved along the south coast. Barrage balloons went up around London while Fighter Command deployed specially adapted Tempests, Spitfires and Mustangs to shoot down those flying bombs that got through the gun belt (Operation Crossbow). The British Government was initially reluctant to divulge information on the V-1 assault, fearing it would only help the German propaganda machine, but Home Secretary Herbert Morrison warned the War Cabinet that the erosion of public morale by the constant rounds of rumour and speculation was now a far greater worry.

On 6 July 1944, Churchill took a remarkable step. He made a candid statement on the flying bomb menace to the House of Commons. "The invisible battle has now crashed into the open," the Prime Minister said. "Between 100 and 150 flying bombs, each weighing about one ton, are being discharged daily – and have been so for the last fortnight or so ... A very high proportion of the casualties have fallen upon London, which presents to the enemy a target 18 miles wide by 20 miles deep. The flying bomb is a weapon literally and essentially indiscriminate in its nature, purpose and effect."

He discussed the measures put in place to combat the threat while emphasising that the main military push against Hitler in France would not be diverted. He concluded, "London will never be conquered and we will never fail."

**"STRAIN, WEARINESS, FEAR AND DESPONDENCY ARE ALL PRESENT – MANY THINK THAT THESE RAIDS ARE WORSE THAN THE BLITZ, BUT THERE IS ALSO A GROWING REALISATION THAT THEY WILL MAKE NO DIFFERENCE TO THE OUTCOME OF THE WAR"**

It was a brave course of action and absolutely the right one in the circumstances. For many, the dose of realism was welcome. "Churchill's statement on the flying bombs has modified the ideas of both those who were prone to exaggerate and those who were inclined to belittle their importance," noted Edward Stebbing in his diary.

The V-1 onslaught continued and the death toll mounted. Londoner Lylie Eldergill wrote to a friend in America, "I do hope it will soon be ended. My nerves can't take much more." But a mood of defiance was once more taking root. The success of fighter squadrons in shooting down 'doodlebugs' was avidly followed, alongside such individual exploits as one pilot getting close enough to a V-1 to tip its wings, throwing it off course. Of 6,725 flying bombs launched at England, 4,261 were

destroyed before they reached their target. A Home Office official recorded, "Strain, weariness, fear and despondency are all present – many think that these raids are worse than the Blitz, but there is also a growing realisation that they will make no difference to the outcome of the war."

In Germany, things were rather different. Internal Nazi Party reports warned, "Hopes of a devastating retaliatory counter-attack are receding. People are concerned about the lack of visual evidence to support claims of massive destruction to British cities. And they complain that there is no evidence of a lessening of the Allied bombing campaign – which they were told would be a result of unleashing the vengeance weapons. If anything, the opposite seems to be the case." The German media was told to tone down its coverage. 'Mass destruction' became 'störungsfeuer' – 'disruptive fire'.

The V-1 was a weapon that lacked the accuracy to be used in any meaningful military capacity. It could not be launched against the Allied beachheads in France or supply depots on the south coast, which elicited an angry reaction from Wehrmacht commanders in Normandy. "The V-1 undoubtedly caused heavy damage in the British capital," Nicolaus von Below noted. "But when our field marshals demanded that the V-1 be used against Allied landing places they were told it was not possible because the flying bomb could not be aimed at a specific target." The reaction to this news, in Below's words, was "thoroughly unpleasant". German soldiers on the ground wanted more planes not flying bombs. Canadian Tempest



*Firemen of the NFS carrying stunned children from shattered homes and shelters following a V-1 attack*

pilot Leslie Moore was briefly taken prisoner in Normandy and reported on his captors' questioning (on 21 July 1944). "The interrogating officer was particularly interested in the effects of the flying bomb but observed that fighter aircraft would have been of far more service to his troops."

By the time of Churchill's speech their air force in the west was outnumbered 15:1, and the picture in the east, where the Red Army had unleashed Operation Bagration against a depleted Army Group Centre, was little better. In private, Goebbels confided to his diary, "The enemy have achieved victory over the Luftwaffe. It is just too depressing and humiliating ... You can well imagine what effect this is having on the German people, because it cannot be hidden from them."

Friedrich Kellner wrote of the flying bomb offensive, "The V-1, our new miracle weapon, will apparently be used with 'cumulative effect'. But after the high rapture, cold water comes rushing in. The people are now told not to exaggerate their hopes." He continued. "Meanwhile, German troops on all fronts are too weak to defend themselves effectively. The army's situation is extremely bad, particularly in the east. The initiative is fully and wholly in the hands of our enemies." He concluded with a joke doing the rounds. "The 'V' in V-1 actually stands for 'Verziefung' ['desperation']."

As Allied troops pushed eastwards, the flying bomb launching sites were overrun. But on Friday 8 September the first V-2 rocket – with a range of around 322 kilometres – landed in Chiswick. Under the leadership of Werner von Braun, a

most remarkable weapon had been perfected. It reached a maximum speed of 5,710 kilometres per hour, weighed 13 tons and also carried a one-ton warhead, but unlike its predecessor it gave no warning. There was simply no defence against it. For a while, the British Government resorted to the pretence of a series of gas explosions. Eventually, Churchill once more addressed the nation. "Because of its high speed, no sufficient warning can under present circumstances be given ... it is another attempt by the enemy to attack the morale of our civilian population."

Air Chief Marshal Sir Philip Joubert later wrote, "Our retaliation against this enormously fast weapon was to attack its launching areas and bomb its supply depots. There was nothing more we could do." But by the time the first rocket had been fired Paris had been liberated and two of the rocket assembly plants, at Watten and Wizernes in the Pas de Calais, had been overrun. Wizernes was the world's largest bunker – over 130,000 tons of concrete went into its construction. Allied bombing could only inflict minor damage on its vast walls.

The launch of the V-2 should have been a coup for Joseph Goebbels, but in early September 1944 the weekly opinion reports submitted to his ministry indicated that the mood of the German population had reached its lowest recorded point. Negative attitudes, "concealed criticism" of the leadership and defeatist comments were on the rise. Morale was so low that Goebbels took the extraordinary decision to censor the news of the first V-2 rocket attack on London rather than risk frittering away its

propaganda value. The much-vaunted "retaliation campaign" had come too late. In England the last V-1 struck Datchworth in Hertfordshire on 29 March 1945, but the attack of the vengeance weapons continued. Antwerp was on the receiving end of V-1 and V-2 attacks from early October 1944. Hitler was desperate to deny the Allies use of the port. By the end of the month more than 150 flying bombs and 100 rockets had pounded the city.

On 27 November, a V-2 landed directly on Terniers Square just as a military convoy was crossing the square, killing 157 people. On 16 December – the day the German Ardennes Offensive began – a rocket landed on top of the Rex Cinema, which was packed to capacity. 567 were killed, of which 296 were Allied servicemen and women. By the end of the vengeance campaign, in March 1945, Antwerp had been struck by 2,248 V-1s and 1,712 V-2s.

Hitler's vengeance weapons were a remarkable technological achievement. The V-1 would prove to be the forerunner of the cruise missile – and the V-2 a pioneer of the space exploration programme. If they had been introduced into the war earlier and developed greater accuracy they might have influenced its outcome. But for all the suffering they caused, they appeared too late to make a difference, either in material terms or to the morale of the German people. The British and the Belgians soldiered on with remarkable fortitude. Albert Speer, the Führer's Armaments Minister said simply, "Hitler – and all of us – hoped the new weapon [the V-1] would sow horror, confusion and paralysis in the enemy camp. We far overestimated its effect."





## EQUINE ADJUSTMENTS

AN ARP WARDEN ENSURES THAT BOTH  
THEY AND THEIR HORSE ARE PROTECTED  
AGAINST THE THREAT OF A GAS ATTACK.  
GERMANY DID DEVELOP SARIN GAS DURING  
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# A TEENAGER IN THE BLITZ



## AN INTERVIEW WITH GLENNIS 'BUNTY' LEATHERDALE

Only 15 years old when war broke out in 1939, Glennis Leatherdale stayed at home in London throughout WWII and grew up around the mayhem of the wartime capital

WORDS TOM GARNER



**Main image:** East End children made homeless by the Blitz, September 1940. As part of her physiotherapy training Leatherdale would treat East End children who had rickets

**Inset, left:** Glennis 'Bunty' Leatherdale during WWII. Leatherdale refused to be evacuated and kept a diary during 1943 while training to become a physiotherapist at Guy's Hospital



**"I REMEMBER SEEING SOLDIERS GETTING ON THE TRAIN BACK FROM CORNWALL. YOU SUDDENLY REALISED THAT SOMETHING AWFUL WAS GOING TO HAPPEN"**

In 1940 Britain seemed to be on the brink of collapse as Western Europe fell to Nazi domination and RAF pilots struggled to maintain air superiority over home skies. An invasion seemed imminent, and to make matters worse Adolf Hitler directed the Luftwaffe to target civilians in mass bombing raids to heighten the sense of despair. What became known as the 'Blitz' brought devastation to London in particular, but the spirit of the people remained defiant.

Civilians quickly learned to adapt to incessant attacks and horrific sights for over five years. One of those determined Londoners was a teenager called Glennis Leatherdale. Nicknamed 'Bunty', Leatherdale refused to be evacuated and spent the entire war at home working in a bank and training to be a physiotherapist. Unlike many of her fellow citizens, Leatherdale wrote a fascinating diary in 1943 and recalled sheltering from air raids, surviving bomb attacks, treating wounded servicemen and taking inspiration from some of the darkest moments in London's history.

Leatherdale was born on 2 February 1924 above her father Alfred's bakery business in Kennington Lane, London. The bakery was a thriving family enterprise. "My grandfather started a business all on his own. He made the bread and went out in 1870, and my father eventually took it over. When my father died he had a chain of 12 shops throughout London, so it had developed into a big business."

Alfred Leatherdale was a WWI veteran who had been severely wounded in the hand, but this did not hinder his work. "He got a hand full of shrapnel at Passchendaele in 1917. When he was wounded the medics wanted to amputate his hand but he said, 'No, I'll keep it.' He wanted a stiff hand rather than no hand at all so that his business could continue. I always remember that his hand was a bit stiff and there were little marks on it, but it didn't stop him."

Alfred was later able to buy a large Edwardian house soon after his daughter was born, on Croxton

Road in Dulwich. Leatherdale remembered her home as "lovely" and that it had a "cellar, which was useful because we spent a lot of time down there during the war".

### Refusing evacuation

Britain declared war on Germany on 3 September 1939, and Leatherdale, who was only 15 years old, remembered the change of atmosphere: "I was on the way back from a holiday in Cornwall and was still at school. I decided I needed to return because there were the rumblings of war, and I remember seeing soldiers getting on the train back from Cornwall. You suddenly realised that something awful was going to happen."

After the declaration there were immediate evacuations of children from cities to the countryside. However, Leatherdale chose to remain in London. "After war was declared I then had to leave school because the school was evacuated, and I didn't want to go away. I had relatives in New Zealand that my parents wanted me to go to, but I didn't want to. I was awkward really; I just didn't want to be evacuated and wanted to stay with my parents in my home."

Although she was only 15, Leatherdale was fortunate in that she had already gained a qualification that was necessary for her future career as a physiotherapist. "I was lucky because I was in a class ahead of my age and I had taken a school certificate that term and got a credit. Without that I wouldn't have been able to do physiotherapy."

Leatherdale's decision to stay at home also meant that she lived in London throughout the capital's most tortured years of the 20th century, a period of unprecedented bloodshed and destruction.

**Below:** A Heinkel He 111 bomber flies over Wapping and the Isle of Dogs on the first day of the London Blitz, 7 September 1940



**Right:** Glennis Leatherdale's father Alfred was a WWI veteran who was wounded in the hand. As a baker, Leatherdale had been in a reserved occupation but he still chose to fight



## The Blitz

Between 1940–41, the Luftwaffe subjected Britain to concentrated, direct bombings of industrial targets and civilian centres. Although other cities like Coventry were reduced to ruins, London suffered the most. The Blitz began with heavy raids on 7 September 1940 and continued until May 1941.

Among this carnage was Leatherdale, who wanted to become a physiotherapist but was forced to wait until she was 18 before she could begin training. Leatherdale consequently found herself working for Barclays Bank on the City Road. "I think it was a bit of nepotism on my father's part. He got me into this bank and they'd never had a female, let alone a teenage girl! But they were so kind to me and very gracious. We also used to go down to a strong room when there was an air raid."

Travelling to work during the Blitz could be an arduous affair. "I remember trying to get to work after there had been a terrific fire raid. There were no buses so I had to walk all the way through Brixton as far as the Oval Underground. Brixton had been terribly burnt and I had to step over these great hoses where they'd been trying to put the fire out. Once I got to the Oval I was alright, but of course there were still plenty of people sleeping down on the platforms from the night before. I think many of them stayed there all day as well because you felt really safe down in the Underground."

Many Londoners sought sanctuary in the Underground, but Leatherdale sheltered in the family cellar that her father had reinforced. "We were down in the cellar every night during that period. My father adapted it like the 1914–18 trenches and used great big wooden props. He always said, 'Short of a bomb right on the house, we're safe down here'. It would have been horrible to go outside into an Anderson shelter. Looking back, I'm very grateful that we had that cellar."

**"I REMEMBER TRYING TO GET TO WORK AFTER A TERRIFIC FIRE RAID. BRIXTON HAD BEEN TERRIBLY BURNT AND I HAD TO STEP OVER THESE GREAT HOSES WHERE THEY'D BEEN TRYING TO PUT THE FIRE OUT"**

Leatherdale recalled that the stress of the Blitz was probably greater for her parents. "In a way I was more worried about my parents. My mother had my father on the Western Front during WWI and now their two children were of service age. I think it must have been much more stressful for them than it probably was for me at that sort of age. You only think of these things afterwards."

Leatherdale's brother Peter eventually served in the RAF (and survived the war) while Glennis left Barclays at 18 to train as a physiotherapist at Guy's Hospital, Southwark.

## Treating servicemen

For Leatherdale, 'physio' training at Guy's was "quite inspirational really. I'd read an article about 'Healing Hands' and immediately wanted to do it. I loved doing something that I thought would be practically useful and it was an interesting time up at Guy's. We had a wonderful anatomy tutor who was absolutely inspirational. If you have a good tutor it makes all the difference."

Homework from Guy's had a macabre twist that was not lost on Leatherdale's father. "When I was studying I had a proper skeleton down in the cellar. I hired it from Cambridge because it eventually had to

have a proper burial, so I had this real dead person with me! My father would say, 'It's bad enough with those bombs coming down and you're sitting there with a skull on your lap!'"

A significant part of her training was treating wounded servicemen who were convalescing at Orpington Hospital. "They'd already had initial treatment and we'd give them exercises to do. You'd have six servicemen on one side, six on the other, and the physio would be standing on a table in the middle wearing a very short little apron. We'd get all sorts of remarks because I'd be standing up there trying to get them to do exercises and they were very cheeky!"

Leatherdale also spent time at Queen Victoria Hospital in East Grinstead, where she observed innovative plastic surgery. "I remember we had Archibald McIndoe, who was a pioneer of plastic surgery for facial injuries. It was mainly for men in the RAF who got these burns, and he was a great plastic surgeon. We used to go down there for training and I went to see what was going on. I always remember there was this young man walking towards me with a big grin on his face. I said, 'Oh, you look happy' and then I realised it was scarring that was causing it. So it was an awful thing."

During her training, Leatherdale almost fell foul of a falling bomb that nearly derailed her train to Guy's. "It exploded right near the railway line so we weren't allowed to get out or do anything. That was a bit of a scary moment because if we had moved much the train would have gone right over because of the underlying bank."

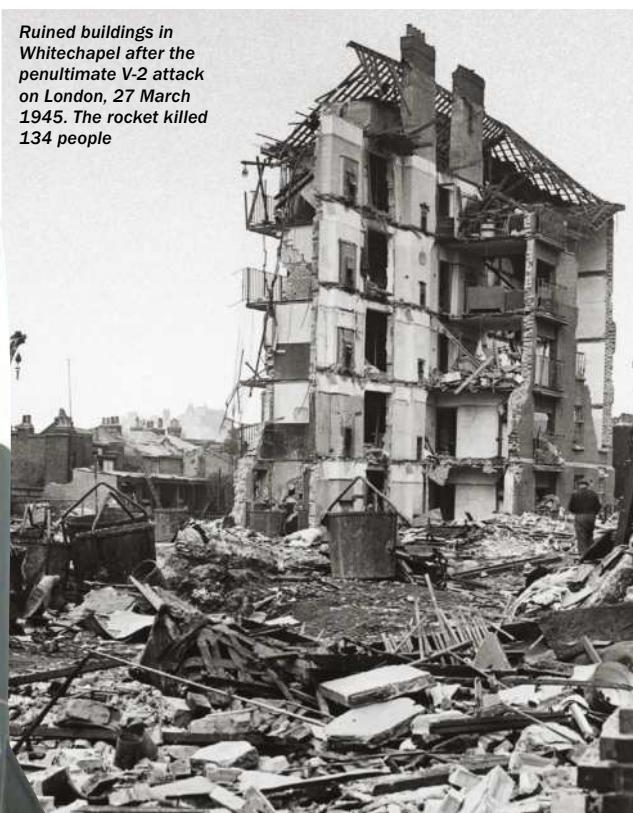
"All one could do was sit there and watch where the bomb had fallen on the houses, and you could see people being brought out of them. That was a pretty harrowing experience. They eventually said that we could get out and walk the rest of the way to London Bridge."

Right: V-2 rockets were the world's first long-range, guided ballistic missiles. V-2s killed thousands in London, Belgium, France, the Netherlands and even Germany

Archibald McIndoe performing plastic surgery at Queen Victoria Hospital, East Grinstead. McIndoe was an innovator in plastic surgery for facial burns and Leatherdale observed his work on RAF servicemen



Ruined buildings in Whitechapel after the penultimate V-2 attack on London, 27 March 1945. The rocket killed 134 people





*Above: Firefighters work to put out blazes on Queen Victoria Street on the night of 10 May 1941. 1,486 people were killed and 11,000 houses were destroyed that night*



*Above: This iconic photograph depicts an undamaged St Paul's Cathedral surrounded by smoke and bomb damage during the night of 29 December 1940. The image became the most recognised symbol of the 'Blitz Spirit'*



*Above: A view from the roof of St Paul's towards the Old Bailey in the aftermath of the 'Second Great Fire of London', 29-30 December 1940*

# CAPITAL UNDER ASSAULT

London was the most heavily bombed British city during WWII and bore grave material and human losses

In 1939 London was the largest city in the world and home to more than 8.6 million people. Consequently, it became a major target of Luftwaffe bombing raids. In a horrifying twist, the targets were not just military and industrial but also deliberately included civilians in an attempt to sap morale.

20,000 tons of high explosives were dropped on London between September 1940 and May 1941, and the damage was enormous. The city was attacked 71 times (including on 57 consecutive nights), which resulted in significant numbers of destroyed and damaged buildings and the deaths of over 20,000 people.

**"THE CITY WAS ATTACKED 71 TIMES (INCLUDING ON 57 CONSECUTIVE NIGHTS), WHICH RESULTED IN SIGNIFICANT NUMBERS OF DAMAGED AND DESTROYED BUILDINGS AND THE DEATHS OF OVER 20,000 PEOPLE"**

Bombing attacks continued throughout the war, and a vigorous blackout was enforced until 17 September 1944. London was then attacked by V-1 and V-2 rockets, which caused further casualties.

The war directly destroyed 73,073 buildings in London, with countless others left in various states of damage. The total casualties by the end of the war were approximately 29,890 Londoners killed in air raids and 139,349 injured, while many more were left homeless. However, the aerial carnage did not destroy the capital because its vast infrastructure and resilient population enabled the city to recover and survive, despite the efforts of the Luftwaffe.

*Firefighters tackle a blaze among ruined buildings after an air raid in 1941*





Londoners take shelter in Aldwych Underground station in 1940 during the Blitz. Leatherdale remembered stepping over sleeping civilians at the Oval Underground station on her way to work



Office workers make their way to work through debris after a heavy air raid. Leatherdale walked through similar scenes in Brixton while working in a bank



Men of the Civil Defence and National Fire Service search through rubble in the aftermath of a V-1 attack in Upper Norwood, 1944



Women salvage possessions from their bombed house, including plants and a clock, after an air raid in 1940



### A wartime diary

Between 1 January and 10 June 1943 Leatherdale kept a daily diary documenting her wartime experiences, although she remarked, "It's a pity I didn't start it until 1943 because it would have been more interesting during the Blitz. A lot of it was really pathetic, such as worrying about the state of my hair. It was so stupid that I was worrying about what I looked like and was so typical of a teenager."

Nevertheless, Leatherdale's diary is a fascinating glimpse of a teenager's perspective in wartime London and is a sobering reminder that Londoners still lived through frequent bombing raids in 1943. Her entry for 17 January stated, "Just as we were sitting down for supper the sirens went. Planes were over soon after and the 'ack-ack' barrage was very heavy. It was just like old times and I can't say I enjoyed it." Three days later a tragic incident was recorded when dozens of children were killed at Sandhurst Road School in Catford: "(20 January) Thirty small children were killed when a school was hit and Surrey Docks was set on fire. (21 January) The number killed when that school was hit yesterday has gone up to 45. How ghastly it is!"

The frequent bombing raids on London were a wearying experience, and Leatherdale became increasingly fearful. In her diary she wrote, "(17 May) Last night was disturbed by three air raid alerts. I find I am much more scared of air raids now since I've seen the results of so many at Orpington [Hospital] than I was during the Blitz. My imagination seems to have sharpened."

However, Leatherdale was remarkably empathetic the very next day towards German civilians following the 'Dambusters' raid: "(18 May) More air raids during the night, nothing very bad but presumably they are to show the Nazis' rage at the RAF bombing of the great dams in the Ruhr on Saturday night. A very large area has been flooded at great interference to the industrial work going on there. It is indubitably a great success, but the thought all those civilians drowned is not the type of victory I like best."

Today, Leatherdale is pleased that she wrote that particular entry. "I remember thinking it was a bit strange that we were having all these bombs in London, but I was thinking of those German villagers that were flooded as a result of the Dambusters raid. It quite surprised me when I read it again recently, but I'm glad I wrote it and feel quite proud of myself, particularly when we were being bombed all the time ourselves." However, despite

the carnage Leatherdale managed to find plenty of time to enjoy herself, and her diaries are littered with entries about visits to the cinema and theatre. Leatherdale was perplexed at the contrast.

"That's what's really quite strange. We'd perhaps spend the whole night down in the cellar with the bombs going off, but then I'd go up to Guy's for training. I'd then perhaps meet a friend and go into London to the theatre. When I read that now it amazes me, I always think I'm reading about another person."

### Doodlebugs, GIs and VE Day

Nevertheless, the war was still dangerous, and London was subjected to V-weapon attacks between 1944–45. Leatherdale remembered, "We had the [V-1] flying bombs and [V-2] rockets. You did get a warning with the flying bombs but not with rockets. I remember one rocket at night when we were all upstairs because we weren't expecting an air raid. This rocket fell about a mile away and my goodness did it shake the house."

On another occasion a V-1 bomb killed a neighbour of Leatherdale's. "On one particular day there was a flying bomb that came over as we were leaving West Dulwich Station and I heard its engine stop. I knew it was going to come down somewhere near my home and I directly phoned up. It had missed our home but it had hit the neighbours and killed the mother while her husband and family were out walking. They all came to stay with us until they could find somewhere to live."

Leatherdale's family often lodged friends in need or visiting servicemen in their large house. "You just helped out. My New Zealand cousins had naval friends who were all given our address. We had a three-storey house so they made the top storey their area. During one of the raids while we were down in the cellar these naval chaps didn't bat an eyelid. All the plaster from the ceiling was coming down but it didn't even wake them up!"

Other Allied soldiers were a ubiquitous sight in London, and Leatherdale has fond memories of the New Zealanders. "They were very present because of my cousins and they made their home with us.

"It's the silly things you remember: they used to take me up to their Forces Club where I learnt to drink Pimm's!"

*Smoke rises from London's docks behind Tower Bridge, 7 September 1940*



Images: Alamy, Leatherdale Family, Pen & Sword

By contrast, American soldiers were a different proposition. "I often used to feel sorry for their girlfriends left at home. They were quite flirtatious and you had to be fairly tough with them. They thought they'd come to 'win the war', but they were very friendly."

Finally, on 8 May 1945, victory in Europe was declared, and London erupted in celebration as a war-weary nation rejoiced in the defeat of the Third Reich and the end of years of hardship. One of the most crowded areas that day was Piccadilly Circus, and Leatherdale was there waiting for a friend. "I was at Piccadilly Underground Station waiting for hours for a friend of mine. This friend never came, but there was this lone Canadian airman.

"We were both just standing there, and he was looking a bit lonely so I said, 'Haven't you got anywhere to go? You can come home with me if you like?' So then he came back home with me to my family and that was my VE Day." There was a huge sense of relief that the war was over and then normal life had to start again."

### The 'Blitz spirit'

London and other British cities had suffered terribly during the war, but as Leatherdale explained, "There was comradeship and the whole country was pulling together." This stoic determination to survive until victory was achieved became known as the 'Blitz spirit', and Leatherdale is in no doubt that this resolve was hugely important.

"I think it's a very true term. The country was under threat and they [the Nazis] were a particularly nasty lot. Of course we didn't know until afterwards what the Nazis had been doing in the extermination camps, but that made the war even more necessary. It absolutely had to be fought."

Glennis Leatherdale went on to have a long career as a physiotherapist for the NHS, but she has never forgotten her teenage years in wartime London. "It was an extraordinary time for a teenager to be growing up but interesting in many ways. It really was inspirational. It gave one a tremendous feeling that something very important was happening and you were part of it."



# BLITZ REALITY

The 'Blitz spirit' has become synonymous with courage in the face of adversity, but did it exist, and how important was the Blitz to the course of the war? We ask an expert

WORDS **RICHARD OVERY**

## THE BLITZ WAS A HARROWING EXPERIENCE FOR THE PEOPLE OF BRITAIN, BUT HOW IMPORTANT WAS IT WHEN CONSIDERING THE WAR AS A WHOLE?

The Blitz was intended to undermine the willingness of the British Government and people to continue the war, and it went hand in hand with the sea blockade by German U-boats. Neither the air nor sea campaign achieved this aim, and Britain remained the only major belligerent against Germany and Italy

until the summer of 1941. In this sense the failure of the Blitz does have significance for the way the war developed, for if Britain had sought a peace with Hitler in spring 1941, then Operation Barbarossa might have been successful and the United States would have had no base in Europe from which to



### EXPERT BIO

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conduct war against the Axis. It is worth noting, however, that Hitler had little confidence that the air campaign would really make Britain seek peace. He kept it going because stopping seemed like an admission of defeat, until the war against the USSR allowed him to switch his air force to the East.

**IF HITLER HAD CONTINUED TO CONCENTRATE ON BOMBING AIRFIELDS AND RADAR INSTALLATIONS, AS OPPOSED TO SWITCHING THE LUFTWAFFE'S ATTENTION TO BRITISH CITIES, COULD GERMANY HAVE SECURED THE AERIAL SUPREMACY NEEDED TO ATTEMPT AN INVASION?**

The German plan in the Battle of Britain was to knock out the RAF by destroying aircraft in the air and bombing RAF bases and supplies. The radar chain was hit once but then largely ignored, while the attack on the RAF infrastructure had only limited effect. Heavy though RAF losses were, there were more British fighter aircraft and pilots at the end of the battle than at the start. If the German air force had concentrated on radar and air bases, it would not have made much difference. Radar stations had a shadow station nearby in case of attack, while air bases could be served by a network of auxiliary airfields, and aircraft could be well camouflaged. Further German attacks would only have exposed the Luftwaffe to even more attrition. It was a battle that the German side could never really win.



Image: Alamy

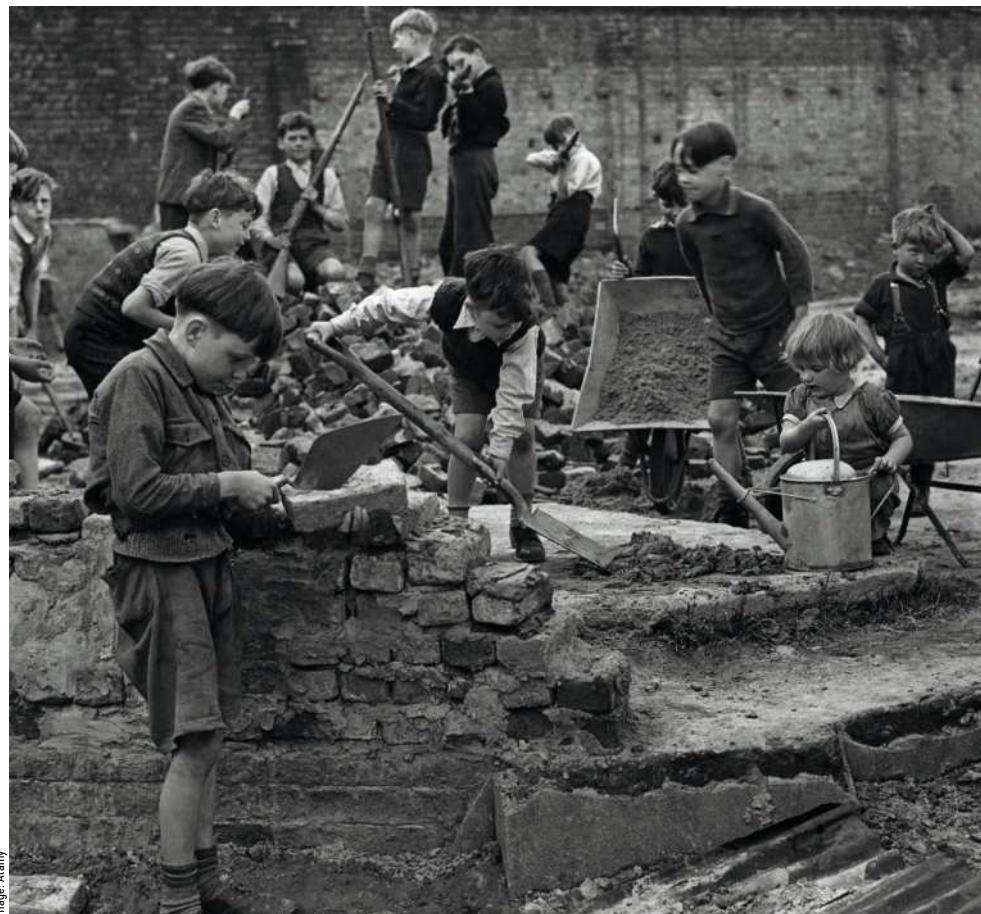


Image: Alamy

## THE 'BLITZ SPIRIT' HAS BECOME SYNONYMOUS WITH COURAGE AND RESILIENCE IN THE FACE OF EXTREME ADVERSITY, BUT HOW REAL WAS IT? WAS BRITAIN TRULY UNIFIED BY THE BOMBING, OR DID CLASS DIVIDES AND SOCIAL UNREST STILL SIMMER BELOW THE SERVICE? WAS THE IDEA OF A UNIFIED BRITAIN SIMPLY A BRILLIANT PIECE OF PROPAGANDA?

The 'Blitz spirit' was largely an invention encouraged by the government and the media, but there is no doubt that British society did show an unexpected resilience in the face of the bombing. The spirit was supposed to show a stoical resistance to the horrors of bombing and a willingness to pull together across classes and communities, but both of these elements were difficult to sustain. In heavily bombed areas there was initial panic, mass exodus from the cities (that persisted every night in some cases well into 1941 - Hull is the best-known example), and a traumatic reaction that lasted long after the bombing events. Communities did

collaborate, but there was much tension between workers, who were the primary victims, and the better-off upper and middle classes, who could escape the city or install a decent shelter. To the extent that there was no major social or political crisis sparked by the bombing, it is possible to speak of some kind of 'Blitz spirit'. People wanted to identify with the propaganda by showing that they could, indeed, 'take it', but it was easier to do that in areas not heavily bombed or not bombed at all. In the bombed cities there was some resentment at the 'Blitz Spirit' propaganda, which bore little relation to the actual experience of being bombed.

## IN YOUR VIEW, HOW SHOULD THE BLITZ BE REMEMBERED TODAY?

The Blitz is not generally well-remembered except as a set of popular slogans about the 'Blitz spirit', popular still with government and media. Victims were not usually given any monument or memorial after the war, unlike all military losses. The Blitz lives on in popular history as a set of images and anecdotes, but the historical narrative is little understood. More needs to be done to give a realistic account of the campaign and of the suffering ordinary people experienced, and to

remember civilian victims in the same way as the military. Schools treat the Blitz as something of an adventure as children do mock evacuation games or visit the Blitz Experience gallery at the Imperial War Museum. The Blitz was not an adventure but something deeply traumatic and destructive, for which a more sober assessment is called for. Slogans don't create community solidarity or mobilise the energy to confront disaster, either during the Blitz or during the current pandemic.

## COULD MORE HAVE BEEN DONE TO PREVENT CIVILIAN CASUALTIES DURING THE BLITZ? WAS A DEATH TOLL IN EXCESS OF 40,000 AVOIDABLE?

The death toll in the Blitz was exceptionally high, given the scale of the German campaign and the weight of bombs dropped. Raiding in 1940 by the RAF on German towns, which happened every clear night from May 1940 onwards, only killed 950 that year. The Luftwaffe did not deliberately target civilians for terror purposes, but the industrial and port targets that they bombed were surrounded by civilian residential housing, which was hit at the same time. The scale of casualties, however, has other explanations. First, workers' housing was poor quality and clustered around the major port areas under attack. Working-class housing generally had nowhere to place an Anderson shelter in the garden and few cellars to act as bunkers. Workers had to find shelters, and these were inadequate during the Blitz, particularly the hastily built brick surface shelters that went up in poorer residential areas. Second, a great many people during the Blitz avoided sheltering in dedicated shelters for long periods (if there was one) and preferred to sleep in their beds or shelter at home under the stairs. Poor shelter provision encouraged poor sheltering discipline, and thousands paid the penalty for staying put at home.



Image: Getty Images



Image: Getty Images

# DEADLY FIGURES

The devastating numbers behind Nazi Germany's ruthless aerial campaign over Britain

## THE BLITZ IN NUMBERS

SEPTEMBER 1940 –  
MAY 1941

		
INJURED 51,000	DEAD 43,000	HOMELESS 2.25M+



**503 TONS**  
EXPLOSIVES DROPPED ON  
CITY OF COVENTRY

KEY: TONS OF HIGH EXPLOSIVES

-  1-499
-  500-999
-  1,000-2,000
-  18,800



**965 PLANES**

ATTACKED LONDON ON  
7 SEPTEMBER 1940, THE  
FIRST RAID OF THE BLITZ

**60%**

OF HOMES DESTROYED  
DURING THE BLITZ WERE  
IN LONDON

**3.5 MILLION**

PEOPLE WERE EVACUATED  
TO RURAL AREAS IN  
BRITAIN DURING WWII

**25,000**

BOMBS WERE DROPPED  
ON THE PORT OF LONDON

**2,265**

GERMAN PLANES  
DESTROYED DURING  
THE BLITZ

**3,363**

GERMAN AIRCREW  
KILLED BETWEEN  
1940-1941

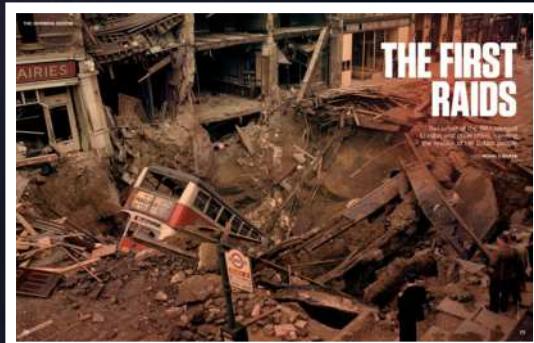




HISTORY  
WAR

# THE BLITZ

INSIDE THE STORY OF BRITAIN'S FIGHT FOR SURVIVAL



## EARLY ATTACKS

Witness the carnage of the first Luftwaffe air raids in 1940



## RUN FOR COVER

Explore the inside of an Anderson shelter, saviour of countless lives



## ONBOARD A BOMBER

Climb into a Heinkel He 111 and find out why it was such a formidable machine



## WRATH OF A TYRANT

Discover the secret weapons that Hitler unleashed on London as defeat loomed